

PACIFIC INSTITUTE SERIES ON FORENSIC PSYCHOLOGY

THIRD EDITION

DETECTING MALINGERING AND DECEPTION

**FORENSIC
DISTORTION ANALYSIS
(FDA-5)**

Harold V. Hall
Joseph G. Poirier



CRC Press
Taylor & Francis Group

Detecting Malingering and Deception

PACIFIC INSTITUTE SERIES ON FORENSIC PSYCHOLOGY

Edited by Harold V. Hall

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Detecting Malingering and Deception: Forensic Distortion Analysis (FDA-5), Third Edition

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Forensic Distortion Analysis (FDA-5)

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CRC Press

Taylor & Francis Group

Boca Raton London New York

CRC Press is an imprint of the
Taylor & Francis Group, an **informa** business

Third edition published 2020
by CRC Press
6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742

and by CRC Press
2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

© 2020 Taylor & Francis Group, LLC

Second edition published by CRC Press 2001

CRC Press is an imprint of Taylor & Francis Group, LLC

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Library of Congress Cataloging-in-Publication Data

Names: Hall, Harold V., author. | Poirier, Joseph G., author.
Title: Detecting malingering and deception : forensic distortion analysis
(FDA) / Harold V. Hall and Joseph G. Poirier.

Other titles: Pacific Institute series on forensic psychology.
Description: Third edition. | Boca Raton : CRC Press, [2020] | Series:
Pacific Institute series on forensic psychology | Includes
bibliographical references and index.

Identifiers: LCCN 2020000226 (print) | LCCN 2020000227 (ebook) | ISBN
9781138390454 (hbk) | ISBN 9780429423031 (ebk)
Subjects: LCSH: Malingering--United States. | Deception--United States. |
Medical jurisprudence--United States. | MESH: Malingering | Deception |
Forensic Medicine | United States
Classification: LCC RA1146 .H35 2020 (print) | LCC RA1146 (ebook) | NLM W
783 | DDC 614/.1--dc23
LC record available at <https://lccn.loc.gov/2020000226>
LC ebook record available at <https://lccn.loc.gov/2020000227>

ISBN: 978-1-138-39045-4 (hbk)
ISBN: 978-0-429-42303-1 (ebk)

Typeset in Minion
by Lumina Datamatics Limited

To Reverend Jiko Nakade, Daifukuji Soto Mission, Hawaii

—H.V.H.

*To my wife Elizabeth, my children Joseph, III, Jessica Poirier-DeCuyper,
and my seven grandchildren. I add a special note of recognition to
my favorites, Addelyn Elizabeth DeCuyper and William Conrad DeCuyper, Jr.
who have enriched my understanding of child development.*

—J.G.P.

A truth told with bad intent beats all the lies you can invent.

—William Blake

A half-truth is a whole lie.

—Jewish Proverb

History has man cunning passages, contrived corridors
And issues, deceives with whispering ambitions,
Guides us by vanities.

—Thomas Stearns Eliot

The true way to be deceived is to think oneself more clever than others.

—Francois, Duc de La Rochefoucauld

Tell a man there are 300 billion stars in the universe and he'll believe you. Tell him a bench
has wet paint on it and he'll have to touch to be sure.

—Jaeger's Facts

Trust everybody; but always cut the cards.

—Finley Peter Dunne's Credo

No matter where or what, there are makers, takers, and fakers.

—Kegley's Principle of Observation

Toothaches tend to occur on Saturday nights.

—Johnson-Laird's Law

The greatest way to live with honor in this world is to be what we pretend to be.

—Socrates, 470–399 BC

As I grow older, I pay less attention to what men say. I just watch what they do.

—Andrew Carnegie

No man can for any considerable time wear one face to himself and another to the multitude,
without finally getting bewildered as to which may be true.

—Nathaniel Hawthorne

Tell the truth and you don't have to remember anything.

—Mark Twain

It is a double pleasure to deceive the deceiver.

—Jean de La Fontaine

Things come apart so easily when they have been held together with lies.

—Dorothy Allison, *Bastard Out of Carolina*

When truth is replaced by silence, the silence is a lie.

—Yevgeny Yevtushenko

I'm not upset that you lied to me, I'm upset that from now on I can't believe you.

—Friedrich Nietzsche

The reason I talk to myself is because I'm the only one whose answers I accept.

—George Carlin

I lie to myself all the time. But I never believe me.

—S.E. Hinton, *The Outsiders*

There are three types of lies – lies, damn lies, and statistics.

—Benjamin Disraeli

It is better to offer no excuse than a bad one.

—George Washington

People think that a liar gains a victory over his victim. What I've learned is that a lie is an act of self-abdication, because one surrenders one's reality to the person to whom one lies, making that person one's master, condemning oneself from then on to faking the sort of reality that person's view requires to be faked...The man who lies to the world, is the world's slave from then on...There are no white lies, there is only the blackest of destruction, and a white lie is the blackest of all.

—Ayn Rand, *Atlas Shrugged*

History is a set of lies agreed upon.

—Napoléon Bonaparte

Never hide things from hardcore thinkers. They get more aggravated, more provoked by confusion than the most painful truths.

—Criss Jami

You can fool some of the people all of the time, and all of the people some of the time, but you cannot fool all of the people all of the time.

—Abraham Lincoln

Clinton lied. A man might forget where he parks or where he lives, but he never forgets oral sex, no matter how bad it is.

—Barbara Bush

There is beauty in truth, even if it's painful. Those who lie, twist life so that it looks tasty to the lazy, brilliant to the ignorant, and powerful to the weak. But lies only strengthen our defects. They don't teach anything, help anything, fix anything or cure anything. Nor do they develop one's character, one's mind, one's heart or one's soul.

—**José N. Harris**

No man has a good enough memory to be a successful liar.

—**Abraham Lincoln**

No lie ever reaches old age.

—**Sophocles**

A lie can travel halfway around the world while the truth is putting on its shoes. The least initial deviation from the truth is multiplied later a thousand-fold.

—**Aristotle**

If you tell a big enough lie and tell it frequently enough, it will be believed.

—**Mark Twain**

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Preface

What new developments do we have to offer in this third edition of the book? The conceptual and empirical underpinnings of the Forensic Distortion Analysis (FDA-5) model continue to be explored, refined, and expanded. Virtually every chapter has been updated with new studies and updated, empirically based, research. New chapters have been added to amplify methodological rigor in forensic cases involving child abuse and neglect, and a clearer idea on evolving trends and advances in deception analysis. New information has been added to include discussions of terrorism by individuals and small groups, an expanded commentary on deception and American wars, and the role of deception in the media, politics, finance, and business. In the utilization of principle-driven, ethically consistent, deception-related information and procedures, however, this book steadfastly pursues quality forensic evaluation of individual persons, consultation, training, and research, and proffering opinions as an expert in the criminal or civil court.

Learned and laypersons have commented on deceptive behavior for at least two millennia. Deception always is targeted to a particular activity, behavior, or event. In contemporary American forensic settings and situations, conducting a deception analysis in order to interpret data in a more accurate manner is now considered essential. When the stakes are high, as when incarceration or detainment in a psychiatric facility is a possible outcome of criminal proceedings, or when large sums of money are involved, as in lawsuits in some civil proceedings, truth is often bent if not broken by the key actors in the litigation process. For this reason, mental health and forensic professionals, as well as criminal and civil attorneys, have found the previous editions of this book extremely helpful in their attempts to deal with the many faces of deception and distortion.

Evolution of the Forensic Distortion Analysis-5 (FDA-5) Model

When the authors began planning for this third edition, there was discussion about retention of the Forensic Distortion Analysis (FDA-5) concept. The FDA concept was first introduced by Dr. Hall in 1986 (Hall 1986) and further implemented in the first and second editions of the book (Hall & Poirier 2001; Hall & Pritchard 1996). Presently, the question was whether FDA remained a viable concept in view of the passage of time since its introduction (now more than 30 years ago), and in view of continued major developments in deception analysis. The decision was to retain the FDA concept and expand the model to FDA-5 in recognition of the now five generations of FDA knowledge as outlined below.

This third edition offers an awareness of the continuing evolution in this field. Five generations of deception-detecting methods can be historically identified, although not in terms of specific date ranges. Rather, the generations are defined by types of approach, emerging technical advances, and increased precision of detection. Each successive

generation incorporates the substance of the earlier generation(s), and our FDA model continues to perfect itself according to these sequential generational advances. The first generation consisted of all those methods which relied on observing/talking to the possible deceiver in reference to a specific forensic issue, along with the review of records. Clinical judgment formed the basis of conclusions and later expert opinions. Accuracy rates for this first generation set of measures range from almost zero to somewhat better than chance, depending upon a host of situational, professional, and interpersonal factors.

The second generation of deception detection included objective methods with accuracy rates substantially and consistently above chance. However, they are still by no means awe-inspiring, falling somewhere in the 60%–85% accuracy range. The validity indices of the Minnesota Multiphasic Personality Inventory and other objective testing along with the use of the polygraph and other physiological arousal responses during the evaluation process are examples in this category.

A third generation of methods emerged in focal areas, such as forced choice testing and neurocognitive assessment for detecting underreporting of abilities and strengths. This method may incorporate (normed) structured interviewing and objective testing. Observation of the person's behavior in different contexts can be part of this method. Accuracy rates exceed 90% under the right conditions for evaluation as presented in later chapters.

Models of deception using behavioral characteristics and findings from third generation-recommended practices and measures, which may eventually lead to a general theory of deception, have been proposed and constitute a fourth generation of theory-driven research. This fourth generation also consists of a burgeoning development of reliable and valid stand-alone deception measures, initially springing forth in the 1990s, that may be used along with embedded measures of deception detection within objective psychological testing and norm-based structured interviewing.

An emerging fifth generation of deception analysis is the product of technological developments including the computerization of data far surpassing the speed and memory limitations of the past. Included in this fifth generation are developments in medical technologies, the most notable of which is DNA research and neuroimaging of sites and systems associated with deceptive responding. Neuroimaging data may be used to demonstrate the presence or absence of forensically relevant information, for example, neurocognitive disorders. For claims of cerebral injury, we see an increased use of functional Magnetic Resonance Imaging (fMRI), single-photon emission computerized tomography (SPECT), positron emission tomography (PET), and DEEG in forensic cases. These methods provide a variety of neuroimaging and psychophysiological measures far more precise than currently possible with polygraph and other arousal techniques. The forensic professional is cautioned, however, that use of these precise measures is not the equivalent of highly valid detection of deception, as a number of legal cases and empirical studies have shown. Of importance, the developing fifth generation in some cases can be utilized in conjunction with reliable and valid third and fourth generation methods.

Although this book is more of an applied book than a learned treatise, a model of deception that has utility for the evaluator is presented. The proposed FDA-5 model covers: (a) targets of the faker, (b) response styles shown, and (c) methods to detect the deception. It will take the reader far beyond the basic differentiation between malingering versus defensiveness as the two modes of distortion. The model proposes, for example, a fluctuating response mode as a distinct possibility, observed in clinical situations

and interrogation settings, where the faker may shift strategies during a single evaluation period. Hopefully, the forensic evaluator will find useful methods which can be applied to a variety of deception-related settings and situations.

In our deception analysis, we should not ignore individual cultural, political, economic, and mental and physical health-related factors of a non-deliberate nature that may influence the accuracy of response. Termed “distortion” and discussed in detail in [Chapter 2](#), it is always considered first before conclusions of deliberate deception are proffered. A heuristic decision tree is offered in this book that clearly separates distortion, which is characterized as unintentional, non-deliberate, and replicable using data-driven methods, from deception, which is intentional and deliberate, but likewise capable of verification and replication. This bifurcation of distortion and deception has significant implications for evaluators, particularly those of various psychoanalytic, neo-analytic, and other dynamically oriented approaches, who erroneously attempt to combine concepts in their psychodiagnostic formulation laid out in DSM-5 and ICD-10, and the recently released ICD-11. The many ways a deception analysis can be fatally flawed are discussed in this book, as well as reliable and valid methods that meet professional and legal standards. Ethical considerations are a focal concern in all deception analyses and will be addressed in detail.

Stress is a key concept in determining the inaccuracy of a response. The top three sources of stress for Americans are the perceived precarious future of our nation (63%), money problems, including increasing difficulty in making ends meet (62%), and work, including job insecurity and job dissatisfaction (61%), according to the American Psychological Association (APA) State of Our Nation report released on November 1, 2017. More than 4000 American adults from diverse stratifications were surveyed. Ominously, almost 60%, regardless of age, see the present period as the “lowest point in our nation’s history.” In the last few decades, our country has experienced significant turmoil with, as examples of stress-related causes, two of the longest wars in American history, a widening gap in earnings between the 1%ers and the rest of the population, a diminished ability to service our national debt, distrust in our institutions, and much more. Stress and post-stress reactions, level of intelligence, physical conditions, and other possible distorting factors are always factored into the deception analysis. At the same time, a conjoining trend in the United States is the increase in interest in the applied aspects of deception detection by the government, the private sector, and in the mental health and forensic arenas.

This book has four general aims: (1) to update historical and current information on deception detection, (2) to underscore ethical guidelines for detecting deception with due consideration for the variable accuracy rates of different methods and the varying contexts in which a deception analysis may be relevant, (3) to highlight areas of potential fallacy and misuse of deception analysis, and (4) to hopefully stimulate further research on effective methods of deception detection. The review of current detection methods includes experimental and clinical methods with an emphasis on rigorous, standardized testing. The inclusion of some less accurate methods is not intended as an endorsement of their adjunctive use by the practicing clinician or forensic professional, but rather as an impetus for refinement and development which may eventuate in methods that are more useful.

The database of the authors consists of ongoing review of hundreds of articles and books on deception and direct evaluation of several thousand forensic clients over the past 40 years. Additionally, there is the authors’ combined experiential database of approximately 60 years in conducting forensic assessments within the formal adversarial arena. Both authors,

American Board of Professional Psychology (ABPP) board certified by examination in several specialty areas, have been qualified in court as expert witnesses in forensic psychology numerous times, with testimony that included a deception analysis in the instant case.

New areas of deception have continued to emerge, with a reading list of source material now numbering in the thousands. Although this book attempts to address the focal issue of detecting distortion in forensic contexts, it is the writers' sense that all the material included in the book contributes to a vigorous discussion of deception detection. Several caveats are in order:

1. All cases in this book are disguised to protect the identity of relevant parties
2. Legal citations are included to illustrate trends and controversies in the law and are not intended to represent precedents in any particular jurisdiction. Locally applicable law should be reviewed to determine practices and standards in specific cases in given jurisdictions
3. The overall state-of-the-art in deception analysis is methodologically promising, yet far from exact precision. It is tempting to press current methods into immediate service, yet caution should reign. This book is as much about prospects for the future as it is about practical and ethical guidelines for the present. Nevertheless, recommendations and guidelines for the practicing clinician are offered throughout the book, even when prevailing counsel maybe to simply ignore a particular method
4. This book requires readers to examine their own decision processes regarding deception. Many forensic professionals are reluctant to change their biases and values about deception, especially when loss of reputation or prestige is equated with giving up cherished beliefs
5. A common complaint is that proper deception analysis requires much time and effort, burdening the busy professional even more. This is an increasingly accurate observation, but the authors have minimal sympathy for this challenge. The days of administering an Minnesota Multiphasic Personality Inventory (MMPI) and a Rorschach to an interviewed client and thereby knowing everything there is to know about the person are gone forever
6. Forensic evaluators are beginning to integrate the conceptual principles of the FDA-5 with emerging psychometric instruments of ever-improving sophistication and empirical validity. The availability of new psychophysiological methods, especially neuroimaging and DNA procedures offer astonishing new possibilities of adjunctive technology to FDA-5. The reader should keep in mind that a first priority of the FDA-5 is ethics. Forensic evaluators have the duty to do no harm to the evaluated person as well as adhere to due process guidelines, these obligations extending to all forensic or clinical services that we perform
7. There are virtually no concepts or procedures in mental health that are sufficiently empirically grounded to warrant opinions expressed in absolutes. This is particularly true for virtually all the topical areas covered in this book. Yet, some forensic clinicians routinely couch their opinions in absolutes, and this can be misleadingly compelling from the witness stand, especially to naive triers of fact. This circumstance should not be misused as a justification to present with such comportment from the witness stand. Specific methods are recommended in this book to keep the forensic professional accountable, ethical, and objectively focused

Acknowledgments

The authors would like to acknowledge the following individuals, all of whom have generously supplied time, ideas, and chapters for the authors' edited forensic works, manuscript reviews, and encouragement: David DeMatteo, JD, PhD, Drexel Kline School of Law; Kirk Heilbrun, PhD, ABPP, Drexel University; Lois Oberlander Condie, PhD, ABPdN, Harvard Medical School and Boston Children's Hospital; John Call, PhD, JD, director, SRT, Inc., Oklahoma City; Randy Otto, PhD, ABPP, University of South Florida; Richart L. DeMier, PhD, ABPP, independent practice, Springfield, MO; Ronald Ebert, PhD, ABPP; Kris Mohandie, PhD, ABPP, Operational Consulting International, Inc., California based with global outreach; Jane Thompson, PhD, consultant, West Indies; Jeffery Long, PhD, ABPP, psychologist, Springfield, MA; Robin Heinrichs, PhD, ABCN, Kansas University School of Medicine-Wichita; Jonathan W. Gould, PhD, ABPP, consultant, forensic psychology, Charlotte Psychotherapy & Consultation Group, NC; David Martindale, PhD, consultant, forensic psychology, NY; Jay M. Finkelman, PhD, MPH, ABPP, The Chicago School of Professional Psychology; Deborah Chavez, PhD, MFH, independent practice, HI; and the late Rolland Parker, independent practice, NY, who so generously imparted his wisdom and neuropsychological expertise. Mark Listewnik, senior editor, *Forensic Science*, Taylor & Francis, is greatly appreciated for his patience and support of the authors in this project.

The authors also acknowledge the collegial support and input of the following individuals for the second and third editions: (a) The late, Honorable Ernest A. Loveless, chief judge of the Maryland's 7th Judicial Circuit, (b) the late, Honorable William H. McCullough, chief judge of Maryland's 7th Judicial Circuit, (c) the late, Honorable William D. Missouri, chief judge of Maryland's 7th Judicial Circuit, (d) the late George G. Katz, JD, PhD, ABPP, (e) the late Carl Zimet, PhD, ABPP, (f) Susan Carney, (g) Gustavo Goldstein, MD, (h) Ellen Levin, DWS, (i) Gila Nordman, LCSW, all affiliated with Montgomery County, MD, Department of Health and Human Services, (j) Stuart Grozbean, JD, independent practice, Rockville, MD, (k) the late Sandy Scheele, Gaithersburg, MD, and (l) Clara Fratantuono, Prince George's County, MD, Circuit Court.

Permission is gratefully acknowledged from the American Psychological Association to cite passages from the *Ethical Principles of Psychologists and Code of Conduct* (2003, with 2010 and 2016 amendments), *Specialty Guidelines for Forensic Psychology* (www.apa.org, 2013) set to expire August 3, 2021, and the *Revised Standards for Educational and Psychological Testing* (www.apa.org, 2014). The authors sincerely acknowledge the seminal contributions of the late Dr. David A. Pritchard to the first two editions of this book. Many thanks are due to students and colleagues who have attended workshops and case

conferences on deception. Appreciation is expressed to the National Institute of Justice (NIJ) and the National Institutes of Health (NIH) which have spent much time and effort in generating deception-related base-rate data, especially in regard to violence and substance abuse.

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Introduction

Deception refers to inducing a false belief in another. From an interdisciplinary perspective, deception is a complex social behavior involving a set of higher-order cognitive skills (Gamer & Ambach 2014). Often successful and rewarded when undetected, victims of deception are subject to its influence even when they know they are being duped. False praise and adoration, as well as concealing dislike and loathing, allow smooth interaction with others—a social lubricant.

Replicated research to be reviewed indicates that students, friends, lovers, and family members lie to one another in abundance. Business people and politicians distort as part of their natural interactions with others. “In everyday life it is usually possible for the performer to create intentionally almost any kind of false impression without putting himself or herself in the indefensible position of having told a clear-cut lie. Communication techniques such as innuendo, strategic ambiguity, and crucial omissions allow the misinformer to profit from lies without, technically, telling any” (Goffman 1959, p. 62).

Deception can have terrible consequences. Former President Obama in an address in South Africa noted the “utter loss of shame among political leaders when they’re caught in a lie and they just double down and lie some more.” He warns that the denial of facts—such as that of climate change—could be the undoing of democracy (Associated Press, July 17, 2018; also www.theguardian.com, July 17, 2018).

Detecting Malingering and Deception: Forensic Distortion Analysis focuses on the detection of deception in one important situation: the forensic evaluation. As stated, the principles of detecting deception and the FDA-5 model itself can be used in other contexts, but the evaluator must verify and be able to replicate the conclusions. Until the second edition of this book (Hall & Poirier 2001), the clinical-forensic literature had difficulty articulating a lucid, organized approach to the overall analysis and detection of faked behavior in forensic situations.

Although individual techniques for detecting deception in the forensic evaluation have been evaluated (Hall 2008; Hall & Thompson 2007; Rogers 1988, 1997; Rogers & Bender 2018), no widely accepted procedure of deception detection in cross-disciplinary contexts has been offered. As we will attempt to establish in this edition of the book, the field is slowly inching forward with new, creative, and increasingly effective methodologies in a variety of areas, but we still lack a universally relevant, unifying model of deception.

This book discusses and demonstrates individual clinical and testing methods which may be applied readily to a wide variety of forensic settings and situations. But more importantly, it suggests a framework for integrating data on deception from multiple sources. Application guidelines and common errors to avoid in deception analysis are presented to forensic evaluators of various disciplines in the civil and/or criminal justice systems. The focus is on the overall problems of detecting deception, supporting one’s conclusions, and communicating findings rather than on specific techniques alone.

A sound method of deception analysis is proposed, whereby the most likely target symptoms and response styles of the client are scrutinized, which then suggest specific detection methods. Topics in this book include: (a) a general model of deception

analysis; (b) applications in civil and criminal law; (c) psychometrics and structured interviewing; (d) forms and report language; (e) denied or minimized conditions: amnesia, dangerousness, and sensory loss; (f) specific malingered conditions: pain, memory, psychosis, post-traumatic stress; and (g) recent advances in the detection of deception: forced choice, explicit alternative testing, and neurocognitive assessment.

The Forensic Distortion Analysis (FDA-5) is defined generically as a set of interlocking procedures designed to answer focal questions relevant to deception. The definitional inclusion of “forensic” in FDA-5 refers to the application of psychological principles to civil and criminal law; the word “distortion,” as stated, indicates that non-deliberate distortion must be considered before offering statements regarding intentional deception. “Deception” by definition is always considered deliberate and subject to choice and control by the faker.

The purposes of FDA-5 are as follows:

1. To examine the reliability and validity of database information
2. To detect the possible existence of misrepresentation
3. To determine the response style(s) utilized by the client
4. To determine the magnitude of distortion
5. To place symptoms, behaviors, or mental conditions associated with distortion and deception into clear perspective
6. To offer guidelines in understanding and accounting for discrepancies and distortions
7. To generate hypotheses for further evaluation/investigation
8. To communicate the decision path and the findings of FDA-5 to the referral source
9. To help standardize the deception analysis process
10. To eventually develop a universally relevant, unifying model of deception detection.

Metaphorically, the FDA-5 is seen by some forensic professionals as an attempt to induce meaning from nebulous forms within changing evaluative contexts in an effort to distinguish often concealed response styles within equally illusive behavioral patterns. As difficult as it may sound, however, deception analysis is possible, and there are now many studies that have met the criteria for scientific rigor and replicability. And we have no choice.

Professional Misconceptions Regarding Deception

Throughout the history of the mental health-law disciplines, many of the beliefs about faking have been characterized by ignorance and vanity. Professionals, especially those in the health disciplines, are generally naive about deception. We believe that we can tell if someone is deceiving us, and that it does not happen very often. Actually, the research indicates that people are generally poor at lie-catching. That is why deception is frequently successful. Although successive advances in distortion analysis have dispelled some misconceptions, others persist as follows:

1. *Most spoken words and behavior can be taken at face value.* Actually, as we have discussed, most people engage in deception in circumscribed settings and situations. Many forensic professionals believe that deception does not usually occur. They do not look for it. False negatives, or incorrectly believing or predicting a person does

not have a particular condition of response set, and false positives, wrongly holding or predicting the presence of a condition or response set, are definite problems when forensic issues are involved. Malingering has been confirmed or suspected in more than 20% of criminal defendants, with another 5% showing substantial unintentional distortion (Rogers 1988, 1997; Rogers & Bender 2018). The deception rates for litigants in civil actions may be even higher. We have convincing data, later presented, which supports this statement

2. *Malingering, when it does occur, means that the faker is mentally sick.* Desperate people often resort to desperate measures to survive or adapt. A person who fakes insanity is not necessarily mentally ill, but may want to avoid prison, a soul-destroying place under the best of conditions. As will be discussed, malingerers in general have good reality contact and are not psychotic. This myth may have been reinforced by the need of some forensic professionals to see psychopathology in liars, which often leads to false positive diagnoses
3. *The evaluator cannot be fooled (other people can).* A favorite trick in cross-examination of experts, still utilized today, is the following (Ziskin, 1981, p. 100):
 Q. And it is possible for an individual to deceive you, isn't it?
 A. Yes, it is possible, but I don't think that I am fooled very often.
 Q. Well, if someone was successful in fooling you, you wouldn't know that he or she had fooled you, would you?

Traditionally, as stated, health and legal professionals have not been very good at detecting faking (Ekman & O'Sullivan 1991; Hall 2008; Hall & Poirier 2001). Worse yet, an inverse relationship has been suggested from research: the greater the confidence, the lower the accuracy in detecting faking. The writers, as with most forensic professionals, would like to believe that they are not fooled by those being evaluated, given their training, experience, and knowledge of the literature. The fact is that they would be fooled frequently without cross-validating data and structured methods to detect the presence and degree of deception. A case illustrates this point:

A suspected serial-rape murderer, an ex-con with a history of sex crimes, was interrogated by police after he was overheard bragging to his fellow drug abusers of ice, the smokable form of methamphetamine, that he raped, killed, and buried a young woman victim in an isolated valley outside the city in which he resided. The area was on a federal reserve near a military base. Very convincingly and with a good deal of righteous indignation, he told police that he had never met the victim, and that he had never been to that valley. He claimed severe memory deficits from chronically smoking ice, so therefore, according to him, he may have been at the bar where the victim was last seen, had a few drinks, but could not remember much else. He admitted to past imprisonment. Prison records available for scrutiny noted his previous polysubstance and ice abuse, as well as neurocognitive deficits from screening measures. Psychological testing there revealed findings that the suspect was a psychopath with above average intelligence, but marginal skills in short-term verbal memory tasks. Nonverbal memory was measured average to above average. He had engaged in suspected predatory sexual and physical aggression toward male inmates, who did not turn him in for fear of retaliation.

A series of binary questions embedded within the interrogation were designed to test his knowledge of victim characteristics and distinct topographical features of the valley that only a person who was familiar with the crime scene would know.

In the first series of 20 questions regarding distinct features of the scene and valley, and victim characteristics and clothing, obtained from witnesses who last saw her, he answered two questions correctly. Thus, probabilistically, he implicated himself in the crime, crime scene, and the general location of the surrounding area by denial and not responding randomly.

A map of the valley was then divided into quadrants with more questions designed to test specific familiarity (by denial) of the topographical features of each section of the valley. The quadrant he affirmed (by denial) was then broken into four sections, and the procedures re-employed, again with 20 questions within each series. After five series of questions, which progressively narrowed the likely area in which the victim was buried, the suspect refused to continue and demanded to see an attorney. The interrogation was terminated. Most likely, the suspect recognized the general intent of the method. The victim was found, however, in the relatively circumscribed area predicted by the suspect's denial of relevant knowledge. He and his attorney wished to plea bargain when confronted with the evidence at the crime scene. DNA evidence established that he had sex with the victim. Unfortunately, there were some problems in the chain of custody of critical evidence. In a plea bargain to avoid execution for capital murder in this federal case, he agreed to plead guilty to murder with aggravating circumstances. He was sentenced to life imprisonment without the possibility of parole.

4. *The DSM-5 and ICD-10-CM provide sufficient information and criteria to diagnose a condition associated with deception.* This is untrue. The Cautionary Statement for Forensic Use (p. 25) in the DSM-5 does not even mention deception despite its frequent occurrence in forensic settings and situations. The American Psychiatric Association (2015) states that caution should be exercised when forensically using DSM-5 because of the “imperfect fit between the questions of ultimate concern to the law and the information contained in a clinical diagnosis.” There is no statement or suggestion that in order to make any sense of the data, a deception analysis should be performed. DSM-5 lists malingering as a V code, other conditions that may be a focus of clinical attention (V65.2, p. 726, listing the ICD-10-CM code as Z76.5), and describes malingering as the intentional reporting of symptoms for personal gain (e.g., monetary compensation and time off from work). Other forms of deception are not addressed. Following the exceptionally limited value of inclusion criteria in previous DSMs, which, if followed, will yield an abundance of false positives and false negatives, the DSM-5 states that malingering should be diagnosed if any combination of the following is shown (p. 727):

“(1) medicolegal context of presentation, e.g., the person’s being referred by his or her attorney to the physician for examination, or the individual self-refers while litigation or criminal charges are pending;

(2) marked discrepancy between the person’s claimed stress of disability and the objective findings and observations;

(3) lack of cooperation during the diagnostic evaluation and in complying with the prescribed treatment regimen;

(4) the presence of antisocial personality disorder.”

5. *Some conditions, such as amnesia, hallucinations, and post-traumatic reactions are easily faked and nearly impossible to disprove.* Yet empirically based methods can detect faked amnesia, for example, with promising degrees of accuracy. Hallucinations are hard to disprove, yet base rates for comparison and decision criteria are available to assist the evaluator. Post-traumatic stress disorder (PTSD) can be assessed by psychometrics or arousal methods with built-in features to assess deception
6. *Detecting faking is an art and cannot be taught.* The reverse appears to be true. There is a behavioral science to deception detection. Following a few simple objective rules increases the accuracy rate substantially. Deception analysis is a trainable skill. Workshops and clinical experiences over the years by the authors show that the average professional can be taught to adequately detect faking in a relatively short period of instruction

Instructional material on deception analysis is embedded in this book on, as illustrations, evaluations of: (a) fitness to proceed and criminal responsibility; (b) post-traumatic stress disorder; (c) neuropsychological impairment; (d) mitigating defenses to murder; and (e) violence risk analysis, this last involving significant advances in methodology (Hall 2008; Hall, Poirier, & Thompson 2007; Hall & Thompson 2007).

Forced choice testing and other variants for deception analysis, discussed in detail in subsequent chapters, provide a quick example of teaching others to detect deception. Learning a few statistical decision rules, long established in the empirical literature and reported upon in the second edition, allows the evaluator to obtain a high degree of accuracy in assessing faked memory deficits. It is relatively easy to administer the procedure and to interpret results. [Figure I.1](#) shows the cumulative (non-overlapping) accuracy with which pseudo-malingering subjects can be classified (Hall & Shooter 1989; Hall, Shooter, Craine, & Paulson 1991; Shooter & Hall 1990). Using one decision rule, only 58% of the subjects were correctly identified as “malingering.” However, using multiple decision rules in a sequential strategy increases the positive hit rate to 95%.

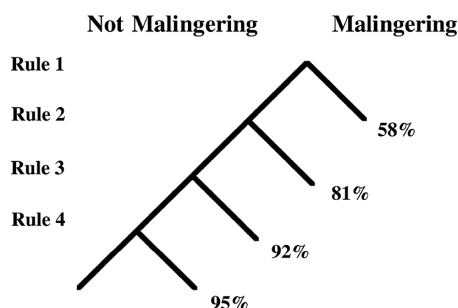


Figure I.1 Forced choice graph.

Applications

Deception analysis is a foundational issue in applied forensics. [Table I.1](#) presents a number of clinical-forensic situations in which deception is a key issue. The emphasis of this book is on criminal law and to a lesser extent civil and clinical applications.

Deceptive Signs

What are the signs of deception? For what do evaluators look? Traditionally, the two most common factors are consistency and history. Does the subject present an inconsistent story of relevant events? Is there a positive history of misrepresentation? Unless inconsistencies are specific and replicable, they are of small value in demonstrating deception. Knowing that the assessee deceived others in the past is likewise of little help. As we have shown from various surveys and investigations, almost everyone has a history of misrepresentation. It has long been established that high achievement-oriented children (i.e., future leaders of our society) actually seem to cheat more than their peers, perhaps in order to maintain their high status and other rewards that come from performing well academically (Grinder 1961; Mischel & Gilligan 1964). Young adults often are no better, as some of the most prestigious of American universities and colleges have demonstrated (e.g., see *Harvard Gazette* 2012, reported in www.nytimes.com.2012/9/31). Modern society appears to offer daily opportunities for distortion of the truth. Skill at faking may even be positively related to success in some professions, at least in Western society.

Too many false positives emerge when applying the historical criteria—erroneously describing individuals as deceptive. This holds true when there is a history of criminality. Previous arrests, charges, convictions, or incarceration for crimes may not be helpful in determining whether the individual is presently deceiving in a specific context. Associating a history of maladaptive behavior with current faking is conceptually hazardous in another sense. A circular quality to utilizing history and mental illness or criminality emerges. Faking is seen as a symptom of maladaptation; proof that a person is mentally ill or criminal is taken as an indication of a tendency to distort and deceive. All this violates a basic premise of this book—that deception is adaptive and both cross- and intra-situation specific.

History, however, can be validly scrutinized in two ways. Are there contradictions between the reported and actual history of an individual? Differences are suspicious after mitigating factors, such as head trauma or drunkenness, are taken into account.

Table I.1 Applications of Deception Analysis

Criminal	Civil	Clinical
Identification of perpetrators	Competency exams	Selection for treatment
Competency to proceed	Witness credibility	Readiness for discharge
Criminal responsibility	Child custody and divorce actions	Treatment motivation
Dangerousness prediction	Personal injury and wrongful death	Transference and counter transference
	Employment screening and dishonesty	Honesty of collaterals
	Eligibility for disability benefits	Community monitoring of treatment

The second way history can be scrutinized concerns whether or not a close “goodness of fit” exists between the relevant act (e.g., providing certain drugs to minors to obtain sex at a particular time and place) and previous acts and methods of the same kind.

A model of deception is presented in this book. Briefly, the evaluator first considers target symptoms of the faker selected in congruence with goal achievement. An employee may malingering the intensity of his or her actual physical trauma and PTSD in order to qualify for the benefits of workers’ compensation. Another may deny a history of violence in order to receive a lighter sentence for assault. A plaintiff may fake cerebral injury in order to obtain a large monetary settlement. A defendant may fake insanity to achieve exculpation and, hence, avoid penal incarceration. The task for the evaluator is to tap into these cognitive targets in order to determine whether they have led to faked or honest behavior.

The second part of the model deals with the response patterns of the deceiver, which fortunately cluster into variations of concealing the real or presenting the fake. The following response patterns are but a few examples indicative of faking:

1. *A rapid improvement when external incentives change or when weak environmental triggers are presented.* A waxing or waning of response intensity is suspicious when it is in harmony with environmental events, such as when the deceiver knows he or she is being observed
2. *Response patterns not congruent with neuropsychological or psychological conditions or symptoms.* This often involves the violation of anatomical laws (e.g., loss of feeling across widely separated sites allegedly due to peripheral nervous system injury rather than according to expected deficits). Neuropsychological principles may also be suspiciously disregarded (e.g., loss of crystallized knowledge in the presence of the ability to learn and adequate short-term recall skills)
3. *Critical behaviors during the interview such as absurd responses, unlikely combinations, and contradictory responses.* While not definitive by themselves, these critical behaviors should alert the evaluator to conduct a more intensive search for indicators of deception

Detection methods and systems are the third and last part of the FDA-5 model. Besides measures and procedures designed specifically to detect deception (e.g., objective psychological and neuropsychological testing with built-in deception-related content and process factors, forced choice testing, and structured interviewing), these include, but are not limited to: (a) variation from expected performance (e.g., errors on simple questions, violation of learning curves, and deviant scores on parallel testing), and (b) validity indicators (e.g., random patterns and production of fake bad profiles).

For each faked condition discussed in this book, a synopsis of detection methods is provided at the end of the chapter. This will provide explicit guidelines on measuring deception. New directions, which may have a fundamental impact on the FDA, are discussed. This includes neurocognitive assessment and computerized versions of forced choice utilizing multiple decision rules. In the final analysis, it is hoped that a practical method of detecting deception will emerge from this inquiry.

As a starting point, this book attempts to equip the evaluator with data and procedures to answer relevant questions concerning deception. Several critical questions for every assessment of deception are as follows:

1. Am I properly trained to conduct a FDA-5? Have I conducted a search of the relevant empirical research? Have ethical issues in this case been considered? Psychologists who conduct a deception analysis should conform their practice to the APA's *Ethical Principles of Psychologists and Code of Conduct* (2003, with 2010 amendments), *Specialty Guidelines for Forensic Psychology* (2013, set to expire August 3, 2021), and the *Revised Standards for Educational and Psychological Testing* (2014). The forensic guidelines and the testing standards are largely aspirational, yet the authors have known cases where individual psychologists have had their testimony struck, received sanctions by the court, or have been litigated against by adversarial attorneys for disregarding the ethical and procedural suggestions in these APA documents.
2. What events triggered a referral for a deception analysis? What happened at that time?
3. Did unintentional distortion occur during the critical forensic event or evaluation? What is the source of that distortion and how was it measured?
4. Has the assessee engaged in deliberate deception? How is that known? Is the deception associated with the past or the present, or both?
5. What is the magnitude of the faking? Quantitatively or qualitatively, how can I demonstrate the degree of faking uncovered?
6. Does present deception differ from that shown previously by the assessee? What is the assessee's history of deception in similar situations?
7. What are the possible inducements to deceive for this particular forensic situation?
8. What is the response style shown by the person deemed to be faking? Behaviorally, which variation of malingering or defensiveness is shown?
9. Who were, are, or will be the most likely targets of deception?
10. Are there any indications of distortion or deception on the part of examining forensic professionals, including myself? Is there a dual relationship or conflict of interest? What are the objections, if any, to independent (or adversarial) experts examining my raw data and notes, often requested during the adversarial process? The courts usually follow the APA recommendation to have the raw data and notes examined by another qualified psychologist rather than a professional of another discipline.
11. Which feedback mechanism can I suggest in order to assist future evaluators of this person's possible deception?
12. How can I fairly, clearly, and accurately represent this person's possible deception to the referring party and/or the criminal or civil court?

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Background, Theory, and Method in Deception Analysis

I



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Foundational Issues in Deception

1

Introduction

Human and animal research shows that deception in various forms is both a pervasive and adaptive phenomenon. In this chapter, we review deception in key human affairs as a background to our primary focus of deception in forensic applications. The next chapter discusses the increasing degree of deception and key stakeholders in contemporary society's divisive conflicts—in the economy, politics, military, and media—and the relevance to professional forensic roles and activities in this country.

Deception is widespread in human affairs. Although deception is the subject of historical exposure and reviling, conjuring, confidence games, white collar crimes, and psychic fraud are still frequent ventures today. Deception is generally held favorably by the deceiver, whereas it is usually viewed negatively by those deceived. Some fakery is perceived favorably by both the deceiver and deceived—in recreational form, such as at carnivals and community fairs, “white” lies that soothe the ill or distressed, and the “hidden favors” method in Naikan therapy imported from Japan, where the deceiver secretly does a positive act for a significant other and says nothing until it is discovered. Some fakery may be viewed unfavorably by both the deceiver and deceived—the pangs of conscience created by deceiving victims of torture or mock execution, as was done by United States (U.S.) military and intelligence personnel during the George Bush administration, telling lies to trusted others, and public humiliation when caught in an act of dishonesty.

A single, coherent field theory of deception is possible if it can interface across disciplines and account for the entire range of faking and falsehood. Once classification and theory-building has begun, application and prediction can better proceed. Thus, in this chapter, we will consider deception from the viewpoint of strategies of the fakers and their targets. Analysis of successful deception provides us with a retrospective view of practices in our socialization and reminds us that we are all both givers and receivers of deception.

There can be no deception without an entity to deceive. This means that deception is always considered in relationship to something else—a target, vulnerability, person, activity, or organization. Forensic professionals and attorneys should know that within the criminal and civil court, a finding of deception is universally held to be within the province of the trier of fact, that is, the jury, or the judge in the case of jury-waived court proceedings. This means for the forensic professional that a deception analysis is primarily useful when it validates our database. Failure to perform a deception analysis will likely fatally flaw an evaluation and courtroom testimony, as without it, the gathered information is taken at face value. The authors have observed testimony struck in both state and federal courts by failure to perform an analysis of unintentional distortion and intentional fabrication.

By definition, all falsehood is interactional in nature, and all interpersonal transactions are subject to deception to a greater or lesser degree. Well-planned deceptive schemes almost always involve representing the target's situation, maintaining the target as somehow appealing, and keeping it apart from the truth.

Psychologists, psychiatrists, and others in the helping professions, as well as researchers and correctional personnel, albeit improving in their detection abilities, over the decades have performed poorly in understanding deliberate falsehood on the part of the examined person. Prior to the 1990s, researchers in the social sciences ignored deception or viewed it as situation-dependent. Other investigators saw it as a stable trait cutting across many contexts.

Actually, deception may be both a **trait**, as reflective of a longstanding characterological pattern, as an example by those diagnosed with anti-social personality disorder, and at the same time a temporary **state** focused on the execution of deceptive behaviors in a particular context at a particular time directed toward satisfying vested interests. Trait conceptualizations of human behavior do have validity. Crime profiling is partially composed of trait descriptors of the perpetrator from crime scene characteristics, for example, and has yielded some remarkable solutions in individual cases. A key interest by the trier of fact, often involves analyzing data relevant to the state of mind of the defendant at the time of the alleged offense. Uncovered trait characteristics in a forensic evaluation, however, may be disallowed as biasing and not relevant to impartially determine guilt or innocence if they take the defendant into past bad acts.

Since the early 1990s, and up to the present, there has been a significant surge of interest in both the theoretical and empirical aspects of deceptive behavior. For forensic professionals, much of this new interest can be traced to developments in the legal arena and in the landmark cases cited in this book. Unlike in the United Kingdom and some other countries, it is essential for the forensic professional to know that deception within limits on the part of police and security investigators during interrogations is allowed (*Frazier v. Cupp*, 394 U.S. 731, 1969). This is not true for U.S. forensic professionals and others bound by the ethical and provider codes of their profession. In *Frazier v. Cupp*, the police deliberately lied to the male suspect about a witness, the suspected accomplice, who was portrayed as already confessing to the crime. Fulero and Wrightsman (2009), in *Forensic Psychology*, discussed how this deception by police in this case made it possible to convict both men of murder.

Lying as a form of deception begins at a very early age. As presented in [Chapter 8](#), the issue of at what age children are developmentally able to understand and engage in deceptive behavior remains a controversial topic among researchers. We do know that the ability to deceive is acquired early in life, and there is research associating the capacity for deception with the neurological maturation of the prefrontal cortex. Among other behavioral functions, the prefrontal cortex is believed to be where the executive function is neurologically localized (Zelazo, Carter, Reznick, & Frye, 1997; Hall & Sbordone, 1993; Hall, 2008). Executive function is a neuropsychological dimension that integrates brain functioning and various aspects of problem solving behavior with the capacity for making volitional decisions. Discussed in the last chapter under functional Magnetic Resonance Imagery (fMRI) research on future trends and directions, there is mounting evidence that deception-related neural activity is primarily located in the prefrontal and frontal regions of the brain.

Deception is one possible behavioral outcome to resolving a problem situation. The ability to be deceptive begins in childhood, as stated, and continues unabated into

adolescence and adulthood. But the exact parameters are unknown. In an interesting study, Nagle, Everhart, Durham, McAmmon, and Walker (2006) found no reliable differences on the Hopkins Verbal Learning Test-Revised among children aged 6–12, who were told to do their best to feign impairment on a test of memory malingering (TOMM). These results add another possible confound to deception research in children. The Nagle et al. (2006) results suggested that the elicitation of “feigned” impairment within this age group required the initial provision of an opportunity for optimal performance.

Proto-Theory and Early Work on Deception

Deception has traditionally been viewed as ubiquitous and adaptive in nature (see Dessoir, 1893; Binet, 1896; Jastrow, 1900). Some early conceptualizations viewed deception as originating in a universal instinct in the context of natural selection. Triplett (1900), a fellow at Clark University, explored magical tricks as his model for deception, stating that conjuring:

rests upon a universal instinct of deception—a biological tendency appearing throughout the animal world from simple forms to the highest orders, which acts as a constant force in the process of natural selection—as a means of preserving the self or species. This instinct, blind enough at the beginning, and to be classed as a deception only by reason of its effect, in the higher orders becomes implicated with an ever-increasing intelligence, ending with the conscious deceptions of man which in him, find their widest range and their highest form.

According to Triplett, human deception traces its roots to mimicry, and conjuring is just one manifestation. In addition to revealing the secrets to known magical tricks in specific detail, Triplett commented on deceiver and target characteristics. The production of passive attention in the target was seen as essential for effective deception, implying that successful deception covaried with the increased suggestibility of the target. He wrote that the effect of conjuring should never be announced, and no trick should be presented twice, lest the target “catch on.”

Triplett held that the best deceivers (“magicians” or “conjurers”) were self-confident, highly disciplined, competent, socially graced, and given to planning. They should never rest on their laurels and, to achieve the best effect, should present deceptions in graduated form—each one more impactful than the previous. Triplett saw every teacher as some sort of conjurer.

Psychological work on deception emerged in the early 1900s, before its promise petered out. In a thought-provoking review of the deception literature, Hyman (1989) described the demise and resurgence of interest in this area as follows:

Human deception deals with the correspondences between internal representations and external reality. The behavioristic psychology that dominated American psychology from the early 1900s until the cognitive revolution in the late 1950s had no room for mentalism of any kind, including the intentionalism inherent in psychology of deception. Although those early accounts relied heavily on the prevailing associationistic psychology, the principles they illustrate have aged surprisingly well and harmonize with the contemporary view of cognitive psychology.

Principles of deception discussed by Hyman (1989) from the early works include:

1. Perceptions are inferred from sensory input and are therefore subject to distortion. People have perceptual guidelines as to what constitutes reality, usually based on the most probable or recent event, and deceivers capitalize upon these expectations
2. Knowledge of deception does not equate to revealing or exposing falsehood. The early literature is replete with examples in which deception was seen as positive (e.g., “white lies”; hunting, martial pursuits) or actually sought after (e.g., as in a magic show)
3. The notion of invited inferences has relevance. A deceiver should lead targets into the desired outcome rather than tell them what they should believe or what the result will be.

Rogers (1990b) re-stated the adaptive nature of deception:

Inclusion criteria for the classification of malingering are shaped and largely predetermined by our explanatory theories. Current theories have postulated the motivation to malingering is either the product of underlying psychopathology (pathogenic model) or criminal backgrounds (DSM III-R model). I have proposed a third model that malingering is typically an adaptive response to adverse circumstances which may best be understood in the context of decision theory.

In a fourth edition entitled *Clinical Assessment of Malingering and Deception*, Rogers and Bender (2018, Eds) reaffirm the adaptive nature of deception. He and contributors then present the research-based knowledge on deception analysis as it applies to usable strategies for detection and application in a wide range of evaluation contexts and domains, including forensic settings. It is interesting to note that dissimulation by psychopaths, these individuals increasing in numbers in contemporary Western society, often experience a “duping delight” when they deceive others. Rogers and Bender discuss neuropsychological models or feigned deficits, deception in child custody cases, personnel selection, and more. There is a similarity between the response styles associated with deception in his book and the earlier editions of *Detecting Malingering and Deception*. Their 2018 text does not, however, fully develop knowledge of, or provide detection methods for, the so-important fluctuating response style, as discussed by the authors of this text.

Deceptive Behavior in America

Deceptive behavior cuts across all socio-economic tiers, educational groupings, school environments, career lines, workplace settings, and is seen in every area of human activity. Studying deception has in all epochs been driven not merely by a wish to understand the mind of the deceiver, but rather to detect deceptive behavior (Gamer & Ambach, 2014).

Nash (1976) provided a natural history of confidence games in America. Documented accounts include that of Dr. John Tennant of Virginia, one of a long line of “quacks” in this country, who provided rattlesnake root to cure pleurisy in the early 1800s. Some of the more bizarre, but successful, medical schemes in the nineteenth century included the two-part pill for tuberculosis. Here, the first part of the pill turned the urine bright green and frightened the person into taking the second part, made of liquorice and saw palmetto.

The litany of fraud continued with feeding bone-thin cattle herds salted food to fatten them before a sale (1815), fake inheritance con games (1835), bogus stock issuances (1854), police payoffs (1870), selling “sucker lists” to mail order houses (1881), and the start of the “wire”—obtaining the results of a horse race before the bookmakers (1898).

David Mauer’s *The American Confidence Man* (1974), A.A. Leff’s *Swindling and Selling* (1976), and Ortiz’s *Gambling Scams* (1990) each provide additional descriptions of how the con game works. Frank Abagnale, one of the most successful con men in the twentieth century, making millions duping people, his deceptions perpetrated from age 17 to 21, stated in his popular work *Catch Me If You Can*: “It is not intelligence but integrity which determines whether or not a man is a good mark” (Abagnale & Redding, 1980).

Honest people are hard to dupe. In the *Art of Human Hacking* (Hagnagy, 2011), the observation is offered that sophisticated con men bond to victims by listening without interruption, making sure they provide proof that they were listening, and repeat back what potential victims said in different words. Success rarely involved IT. Based on the bonding, Hagnagy maintains that people are fooled into giving up their passwords.

False presentations of self and deliberate distortions of intentions are part of the fabric of social life. From innocuous efforts to “make a good impression,” to complicated schemes of fraud, to terrifying acts of violence, deception is an integral part of social interaction. The social science literature is replete with analyses of, and commentaries on, the varieties of human deception.

Deception in academic settings is an embarrassing educational truth, but has been demonstrated over the decades. As of several decades ago, it was found that between one-third and two-thirds of high school and college students cheat (Collison, 1990a, 1990b), the majority of college faculty observe cheating (Jendrek, 1989). More recent findings from the Josephson Institute of Ethics Biennial Report Card survey in 2012 on American Youth found that 51% of the 23,000 high school students admitted to cheating on an exam one or more times in the past academic year, compared to 59% in the 2010 survey. Since 2006, the surveys show that about 100 teachers in American public schools have been caught cheating to increase student test scores. This last finding is widely held to reflect only the tip of the iceberg.

In a top-rated university, about 125 Harvard students in a class of 279 taking a spring 2012 class on government cheated by collaboration on the take-home final exam. About 70 of the students were asked to retroactively withdraw, and the rest were placed on probation (Harvard Gazette, 2012). Taking limited or no responsibility for the cheating, Harvard students threatened a lawsuit and blamed the administration for invading the privacy of their university email accounts in the staff’s effort to determine cheaters from non-cheaters. Nevertheless, the investigation continued with a major unintended finding that the cheating scandal was much broader than initially believed (Boston Globe, 2013). Word quickly spread through the Ivy League grapevine. Yale administrators, for example, noticing a similar pattern at their university, strongly discouraged take-home exams as a preventive measure (Ferreol, 2012). This tactic, of course, only diminishes opportunity to cheat and leaves untouched beliefs and values supportive of dishonesty.

Other investigations have shown that within the school environment, deception is widespread. An earlier study showed that 85% of college students were found to be deceptive to their partners, almost all with regard to other (sometimes intimate) relationships, and with the justification that they wanted to protect their partners (Shusterman & Saxe, 1990). More recent studies, discussed elsewhere in this book, show high rates of cheating among college students in their close relationships. Foreign students appear to be especially

prone to fake their credentials and applications for admission to American universities. Nelson (2013) reported on findings by Zinch China, an institution that assesses educational standards and performance, that 90% of Chinese students applying to American colleges provided fake recommendations, 70% had essays not composed by them, while a still-astounding 50% of grade transcripts were falsified.

Deception in Research

The U.S. Department of Health and Human Services office (2004) found that 3% of the 3475 research institutions reported some form of scientific misconduct that was initially concealed by the investigators. Serious deception has been reported by institutional researchers in more recent times (e.g., see Resnick, 2018). These findings are consistent with the writers' experience in that much research with human subjects incorporates misleading, incomplete, or blatantly false information. Gross deception is sometimes rationalized by investigators who apparently believe that true knowledge of experimental procedures by subjects would bias results.

Vox recently published an expose based on previously unpublished findings by the famous psychologist Phillip Zimbardo. The blog opened with: "The Stanford Prison Experiment was massively influential. We just learned it was a fraud" (Brian Resnick, June 13, 2018). Copies of the original research notes were examined. Deception involved the coaching of guards to be cruel, as opposed to supposedly occurring spontaneously from the aversive nature of confinement. Resnick (2018) adds that some instances of "prisoners" going psychotic or regressing were, in fact, acted out from a script.

White-collar crime and deception: This type of crime includes forgery, counterfeiting, fraud, embezzlement, bribery, theft of services and trade secrets, smuggling, tax evasion, and computer fraud. Always, the deceiver's position of fiduciary trust, power, or influence has provided the opportunity for exploitation. The *Dictionary of Criminal Justice Data Terminology* (U.S Department of Justice, 1981, endorsed by Friedrichs, 2009) defines white-collar crime as:

...nonviolent crime for financial gain committed by means of deception by persons whose occupational status is entrepreneurial, professional or semiprofessional and utilizing their special occupational skills and opportunities and nonviolent crime for financial gain utilizing deception and committed by anyone having special technical and professional knowledge of business and government, irrespective of the person's occupation.

This definition holds as of 2018, although some criminologists now prefer to label white-collar offenses by type and topic. Regardless of the label, the annual cost to the United States conservatively falls between \$300 and 660 billion (Friedrichs, 2009).

One very common, but hidden form of white-collar crime is theft by employees. The second edition of this book reported base-rate studies of theft-at-work problems indicate that 26% to 42% of employees admit to stealing from their job, depending on whether the setting is a retail business, hospital, manufacturing company, fast-food restaurant, or supermarket (see reviews by Camara & Schneider, 1994; Dalton, Wimbush, & Daily, 1994; Jones & Terris, 1990). These investigators cite statistics that show: (a) a \$1.8 billion increase in industry shrinkage from 1982 to 1987 and (b) a 50% reduction in shrinkage over an 18-month period during which integrity testing was initiated in a home improvement center (Jones & Terris, 1990). In general, employee theft is a prevalent problem that

results in huge financial losses, and the thieving employees are almost never caught (Slora, 1989). An estimated 2% to 5% of each consumer dollar is necessary to offset losses from employee theft (Touby, 1994). More current literature indicates these findings and trends have not appreciably changed. Studies have indicated that malingering sickness (i.e., faking bad) *alone*, aside from theft and the other forms of white-collar crime at work, costs the U.S. insurance industry approximately \$150 billion each year (Dinsmoor, 2011).

The results are not clear-cut. Keep in mind that baseline data for employee theft in their various forms are very difficult to establish because of multiple variables and complex interactions. Businesses can accurately identify the total cost of inventory loss. Determining exactly how the loss occurred is difficult. All loss by theft is illegal and the involved players cannot be expected to be forthcoming. Inventory losses, for example, can be due to internal theft by employees or due to external loss by shoplifting or fraudulent claims regarding shipped merchandise. The situation presents a thorny problem to the investigator. How can baseline data be accurately collected when criminal charges and individual job security are at stake? A deception analysis in individual cases may provide more accurate information, but these are rarely utilized in employee theft situations.

Deception in Violence

Virtually all forms of violence involve deception. In preparation for violence against property or victims, deception by perpetrators may involve concealment, hiding the real, noise suppression, and blending into the environment. Robbery often involves faking good, shown by innocuous approach behaviors, followed by faking bad, such as when the robber pretends to hold a pistol or other deadly weapon to the victim's back when no such weapon exists. Kidnapping uses a combination of faking good and bad, as when the location of the victim is concealed, coupled with threats to harm the victim for non-compliance (which may be real in order to dispose of a victim-witness). Victims and their significant others can ill-afford to test whether the perpetrators are bluffing, and in some instances are not sophisticated enough or too stressed to be able to differentiate truth-telling versus lying from the perpetrator. Child sexual abuse relies on a calculated seduction of the child-victim by establishing rapport, offering or delivering something positive, and inculcating a degree of trust for the older perpetrator. This type of sexual violence involves a degree of planning, execution of an array of behaviors, and attempts to escape/evade the consequences of their action.

Rape often involves stalking and verbiage designed to lull the victim into complacency or compliance, the use of a potentially lethal weapon, and usually occurs at night or behind visual barriers. Date rape involves considerable trauma to the victim in spite of her or him being acquainted with the rapist. Some serial rapists use a combination of faking good and bad, as Ted Bundy did when he concealed his intent to kill and had victims carry his books to his car because of his "broken" arm.

Just as in everyday life, deception is successful in many types of violence, perhaps partially explaining why the report rate is so low. People often do not report what they believe will not result in closing a case or result in a conviction. Many violent offenders interviewed by the authors speak of how easy it is to commit violence and get away with it. They usually get caught when they do not practice deception, when they become substance intoxicated or become impulsive, and the critical processes necessary for high-grade deception are impaired.

Murder is the easiest violent crime to solve because the police usually have a body and crime scene information. Yet an astounding 211,000 homicides committed since 1980 remain unsolved according to the FBI's *Crime in the United States* for 1965 to 2013 (see Decode, 2015). About 90% of murder cases were cleared in 1965. Notice the disappointing trend, however. By 2012, the clearance rate, where the probable perpetrator is identified and brought into custody, stood at 64%, where it has remained much the same in the last few years. This surprising trend means that currently about more than 1/3 of the murders in this country remain unsolved. Successful use of deception, threats to potential witness, and other acts, especially in the context of organized crime or crimes perpetrated with a high degree of choice and self-control, are major causes of unsolved murders and accumulated cold cases by police.

These findings are also surprising to most because the overall *rate* of violent crime has fallen sharply since the 1960s (https://bjs.gov/content/pub/pdf/ntcm_2014.pdf). This does not apply to murder, however. The FBI reported a 7% increase in the violent crime rate between 2014 and 2016, *including a 20% rise in the murder rate*—from 4.4 to 5.3 murders per 100,000 residents (<https://ucr.fbi.gov/ucr.fbi.gov/ucr-publications>). These data were collected from 18,000 jurisdictions around the country.

We should not be overly happy with the declining overall rate of violence. For a variety of reasons, in 2016, a typical year, only 42% of the violent crime tracked by Bureau of Justice Statistics (BJS) was even reported to police (see Gramlich, 2017. *5 Facts About Crime in the U.S.*, Pew Research Center, <http://pewrsr.ch/2Fx42JA>).

Deception and the Police

Undercover and interrogation activities by police authorities are notorious examples of deception activities that society passively accepts as legitimate. In the landmark *Miranda v. Arizona* (1966) case, the court was sufficiently concerned with the risks of interrogation to establish the still standing precedent of defendants being warned of their rights prior to interrogation. Defendants are advised that whatever they say could be used against them. We note that Miranda rights extend to all aspects of the pre-trial process to include court-ordered evaluations by mental health clinicians.

Undercover persons are solicited from the ranks of arrestees because they have valuable contacts in the criminal world. Selected arrestees are typically well known to the police from prior arrests. Defendants selected for undercover work are often without funds for legal representation. Also, the promise of mitigating consideration with respect to pending charges can be enticing to arrestees who are encouraged to cooperate even by legal counsel. Much of this activity occurs “unofficially,” which adds considerable risk for undercover persons. We have also evaluated arrestees and defendants who are paid to do undercover work. Overall, undercover work is rife with deception and distortion on the part of all involved parties, including the police or other investigators.

Interrogation activities are another example of calculated deception by police. Gudjonsson and Petursson (1991) suggested that three primary factors contributed to suspect confession: internal pressures, external pressures, and supporting data as to the suspect's complicity. Leo (1996) reviewed data, conducted fieldwork observations, and participated in interrogation training courses; Leo concluded that the process of police interrogation could be best understood in terms of a confidence game. Interrogation is effective because of manipulation and the betrayal of trust. In spite of Miranda warnings

and media exposure regarding interrogation tactics, defendants routinely succumb to police interrogation manipulations raising a number of constitutional rights issues. Whether one is innocent or guilty of an offense, it is highly recommended to consult with an attorney prior to any discussion, even making chitchat or spontaneous statements, to the police.

There is an increasing database regarding false confessions and the unreliability and lack of validity of police interrogation outcomes. It has long been established that untrained police and observers are often not able to accurately distinguish truthful from deceptive suspects (Ekman & O'Sullivan, 1991; Kassin, 1997; Kassin & Fong, 1999; McMahon, 1995). This remains true for more recent investigations (Kassin, 2008; see *R. v. Oickle*, 2000). Interrogation tactics that employ trickery, manipulation, and deception are clearly subject to *false positive* findings, whereby innocent suspects are wrongly deemed involved (Leo & Ofshe, 1998; Kassin, 2008; Cooley, Craig, & Brent, 2014). *False negative* findings occur when complicit suspects will be judged not involved, or it is in the interest of the police and prosecutors to downgrade charges, look the other way, or because of bribery, the last occurring rarely. Interrogation efforts begin with the interrogators knowing a crime has occurred. The interrogators are, by definition, suspicious and have the expectation of interrogatees engaging in deception. This prejudiced posture clearly lends itself to outcomes of finding suspects guilty (Burgoon, Buller, Ebesu, & Rockwell, 1994; Kassin, 2008; Cooley et al., 2014).

It stands to reason that innocent suspects would be likely to be intimidated by coercive strategies. Most innocent suspects would experience an interrogation as highly stressful. Usual and expected signs of nervousness by innocent suspects are likely to be misinterpreted as signs of intentional distortion or deception. We note that this circumstance is a primary basis of the unreliability of polygraph testing. By comparison, complicit suspects experienced in illicit activity and deception may engage in effective reverse-deception during interrogation. Therefore, the gold standard for information brought out in interrogation is that which only the perpetrator would know or confessed to, backed up by supportive evidence.

Police interrogation, in general, is a prejudicial procedure maintained by the feelings of the public and police officials confronted with the realities of serious crime. Interrogation is not always fair or objective to suspects. There are inherent risks for both criminal defendants and suspected defendants. But despite the above misgivings, it is virtually certain that interrogation will remain a vital part of the intelligence effort of police, military, and the intelligence community. A properly administered and ethical FDA-5 may assist in lowering the negative features of interrogation.

Deception and Mental Health Practitioners

In our effort to document the pervasive nature of deception, we are, alas, compelled to acknowledge that even our mental health brethren are not immune from its sinister reach. The mental health delivery system is modeled after the medical system in many ways, and this includes record keeping and fee reimbursement procedures. The medical field has long been under scrutiny because of erroneous or falsified medical reports and illicit billing practices. The mental health field has also had to contend with these problems that can lull practitioners into deceptive practices. The elusive nature of psychological symptoms

and the progressively restrictive climate of managed care reimbursement are an inducement for mental health practitioners to engage in the practice of fraudulent claims (Kirk & Kutchins, 1988; Maesen, 1991; Braun & Cox, 2011).

Part of the problem arises because mental health syndromes and services are not as readily defined as in physical health. The removal of a diseased organ is relatively easy to document with a pathology report. Likewise, the surgical procedure lends itself to objective description. By comparison, the psychotherapeutic treatment of a recurrent depressive disorder is far more intangible in terms of syndrome-definition and what will be involved to provide adequate diagnosis and treatment. We will revisit the difficulties involved in defining psychological syndromes in a later chapter on civil claims of psychological injury and malingered conditions.

There is also a problem when insurance coverage does not reimburse for certain kinds of treatments; common examples are marital or family therapy, which are not viewed as necessary to treat bona fide “medical conditions.” Pope (1990) addressed ethical issues regarding deceptive record keeping and billing as psychological practice expands into the hospital setting. The ethical perils of deceptive or perceived deceptive practice facing forensic mental health clinicians are also well documented (Bersoff, 1995, 1999; Canter, Bennet, Jones, & Nagy, 1994; Poirier, 1999). It should be noted that almost all insurance companies do not reimburse for forensic evaluations. The retained attorney should be apprised of this practice when attempting to procure or reduce the cost of non-therapeutic forensic services by having the forensic evaluator or consultant submit claims to third party carriers.

Health-Related Deception: HIV Status

Interest in the problem of deception has also captured the disfavored eye of the public. The second edition of this book discussed deception in marital and dating relationships that received considerable, exploitive media attention, as well as the attention of researchers interested in effective repair strategies. The problem of deliberate deception regarding HIV transmission and AIDS risk factors was shown to create heightened professional and public concern about this problem years ago (Brody, 1995; Latkin, Vlahov, & Anthony, 1993; Latkin & Vlahov, 1998). But the worldwide response has been mixed.

Depending on the country, the legal approach has vacillated between punitiveness and tolerance. As of 2006, for example, there have been only seven reported cases in England and Wales where the HIV-infected deceiver, whether perpetrating sexual assault or having consensual intimacy, has been charged with recklessly inflicting grievous bodily harm on the victim. Two of these cases involved women as perpetrators (“UK | England | London | Woman jailed for giving lover HIV.” BBC News. June 19, 2006. Retrieved July 29, 2018). The judge in the case remarked: “The one person who he loved had lied to him time and time again.” And “it was her cruelty and dishonesty that made him feel worthless and after that he had had suicidal tendencies.”

Contrast this legal attitude with that in the United States. In July 2010, the White House announced a transformational change in its HIV/AIDS policy: “The continued existence and enforcement of these types of laws [that criminalize HIV infection] run counter to scientific evidence about routes of HIV transmission and may undermine the public health goals of promoting HIV screening and treatment.” (see obamawhitehouse.archives.gov).

In the fall of 2010, the Center for HIV Law and Policy launched a campaign to combat HIV-related discrimination against people with HIV by the U.S. criminal justice system. It released a manual of HIV-specific laws and prosecutions in the 50 states, District of Columbia, U.S. territories, federal government, and military in 2010 (Jump up 2010, 2015). Essentially, in the United States, there are no absolute legal requirements for a HIV-infected person to share their status or to use certain kinds of protection with a possible intimate partner.

Deception and Moral Philosophy

No one would argue that deception in plants and animals is immoral. Their deception can be evaluated solely on its consequences: it either has adaptive value or insures survival or it does not. In man, however, deception can become immoral in spite of advantageous consequences. Forgery, impersonation, consumer fraud, and perjury may all be adaptive and advantageous, but are nonetheless regarded as immoral and usually illegal due to the perceived voluntariness of the acts.

Moral philosophers generally agree that deception which produces intended or foreseen harm is wrong. The deceptive act itself may be morally neutral—as in keeping a secret (Bok, 1989b), but the intentional harm that follows condemns the entire enterprise. Failing to reveal defects in a car, switching brand labels on a consumer product, or concealing limitations in one's skills are not immoral per se, but become wrong from the harm that follows. At the very least, deceptive practices unfairly alter the choices of the deceived by obscuring alternatives, the costs/benefits of those alternatives, or the probabilities of desired outcomes. Thus, potentially injurious consequences are one basis for evaluating the ethics of human deception.

A debated issue is whether certain deceptions by humans are wrong in themselves, irrespective of their intended or foreseeable consequences. The debate has focused on deceptive statements (i.e., lying) rather than on all types of deception. St. Augustine, St. Thomas Aquinas, Immanuel Kant, and John Wesley are among those who have argued that lying is always wrong and admit of no exceptions. Buddhist philosophy has a precept that holds we should manifest truth in all our interactions with others, so necessary in the quest to avoid doing harm and living for the benefit of all human beings.

Statements made with the intent to deceive may differ in the harm they cause, but they are commonly perceived as wrong, even if just in a technical sense. The condemnation of all forms of lying generally rests on its violation of natural law (i.e., abuse of purpose of human ability communication) and moral purpose, its threat to that interpersonal trust which is necessary for society's survival or its affront to the dignity of other persons (Fagothey, 1967). Each of these arguments elevates a greater good above any outcome, which might accrue, from a lie.

The sweeping rejection of all lies has led to provocative debates about its implications. Why, for example, is it justifiable to use force in self-defense, while it is unjustifiable to lie for the same reason? Should a would-be assassin be directed to his intended target in order to avoid lying to him about the victim's whereabouts? Should a lie be avoided if it would ensure the salvation of a million souls?

Such debate has produced logical subdivisions of lies, which allow important distinctions among lies, while at the same time preserving the categorical condemnation.

St. Thomas Aquinas, for example, distinguishes mortal from venial lies and argues that forgiveness of the latter is easier than of the former. Islam's doctrines of deception hold that in certain situations lying is not only permissible, but obligatory. An example is Muslims who must choose between either recanting Islam or being put to death by an enemy in war. Muslims are allowed to lie by pretending to have apostatized (see Quran 4:29). By the same token, Muslims who capture prisoners should make the same offer according to scripture to soldiers marked for execution. Some scholastics have defined lies strictly in terms of the discrepancy between one's "mind" and one's statements. This distinction permits liars to use silent statements to themselves to reverse the apparent intent of their spoken words (akin to crossing one's fingers behind one's back while lying to another). Still other philosophers define a group of intentional misstatements, which are justified because the deceived has no right to know the truth.

Utilitarian philosophers, on the other hand, do not categorically censure lying. For them, the ethics of a lie are determined by balancing the positive and negative consequences of the lie. Some deceptive statements to some people under some circumstances are morally acceptable (even preferable) and other lies to other people under other circumstances are morally repugnant. This situational ethics avoids the machinations needed to apply a categorical condemnation of lying to the real world. However, the utilitarian view of lying has its own problems. First, it is frequently difficult in the real world to estimate the complex costs and benefits associated with a lie. Everyday indulgences in equivocation and deception, such as in employment applications, personal relationships, and in doctor-patient communications, may result in enormous monetary and personal costs (Robinson, Shepherd, & Heywood, 1998). Complex issues like nuclear power, abortion, and the death penalty do not easily lend themselves to the simple calculation of costs and benefits; lies about these issues do not make the calculations any easier. Second, the situational justification of lying provides no mechanism for correcting the biases of the liar. Since the justification is essentially private, it is too easy for the would-be liar to first settle on the desired outcome (to lie or not lie), and then to adjust the calculations to support that alternative. Third, the utilitarian view of lying assumes that lying, *per se*, is morally neutral and is not accorded an initially negative weight (cost), which must be overcome by especially positive benefits. This neutral view of lying, *per se*, overlooks the inherent harm done to society when even justifiable lies are offered.

The moral philosophers have not provided a simple checklist or set of rules for evaluating lies. Their discussion, disagreement, and analysis, however, have provided a perspective, which must be considered in any discussion of human deception. Bok (1989a) offered a contemporary application of this perspective, which may serve as a guide to discussions throughout this book:

we must ask, first, whether there are alternative forms of action which will resolve the difficulty without the use of a lie; second, what might be the moral reasons brought forward to excuse the lie, and what reasons can be raised as counter-arguments. Third, as a test of these two steps, we must ask what a public of reasonable persons might say about such lies (pp. 105–106).

These three questions assume that lying is a last resort, which must be justified by moral reasons acceptable to reasonable persons other than the would-be liar. While not resolving the centuries old debates in moral philosophy, this perspective demands a stringent accounting of lying in strictly moral terms.

The authors are especially interested in applying the moral perspective to the methods used by forensic professionals to detect deception and lying in others. Must clients be informed that one purpose of an evaluation is to assess the genuineness of their self-presentations? Should clients be informed that the primary purpose of a particular test is to detect malingering? Is it ethical for professionals to lie in order to detect deception in clients? The published ethical statements of leading professional organizations provide guidance on these questions. These include *Ethical Principles of Psychologists and Code of Conduct* (APA, 2003, with 2010 and 2016 amendments, retrieved May 18, 2019 from <https://www.apa.org/ethics/code/>), *Specialty Guidelines for Forensic Psychology* (APA, 2013, set to expire August 3, 2021; <https://www.apa.org>), and the *Revised Standards for Educational and Psychological Testing* (APA, 2014, <https://www.apa.org>).

The *Ethical Principles of Psychologists and Code of conduct* (APA, 2003) states under Principle C: Integrity:

Psychologists seek to promote accuracy, honesty, and truthfulness in the science, teaching, and practice of psychology. In these activities psychologists do not steal, cheat or engage in fraud, subterfuge, or intentional misrepresentation of fact. Psychologists strive to keep their promises and to avoid unwise or unclear commitments. In situations in which deception may be ethically justifiable to maximize benefits and minimize harm, psychologists have a serious obligation to consider the need for, the possible consequences of, and their responsibility to correct any resulting mistrust or other harmful effects that arise from the use of such techniques.

The 2016 amendments to the 2003 ethics code, following in the wake of the torture scandal implicating APA psychologists, discussed later, required an affirmative obligation to ethically resolve conflicts. It deleted sections in the 2010 amendment that allowed a “Nuremberg Defense” if a psychologist engaged in moral wrongdoing (i.e., justifying wrongdoing by claiming one was only following orders).

Deleted from the 2010 amendment is the following:

If psychologists’ ethical responsibilities conflict with law, regulations, or other governing legal authority, psychologists make known their commitment to this Ethics Code and take steps to resolve the conflict in a responsible manner. Instead, the following was added with the 2016 amendment: If the conflict is unresolvable via such means, psychologists may adhere to the requirements of the law, regulations, or other governing authority in keeping with basic principles of human rights.

The 2016 amendment adds more torture-related prohibitions as follows:

3.04 Avoiding Harm

- (a) Psychologists take reasonable steps to avoid harming their clients/patients, students, supervisees, research participants, organizational clients, and others with whom they work, and to minimize harm where it is foreseeable and unavoidable. And
- (b) Psychologists do not participate in, facilitate, assist, or otherwise engage in torture, defined as any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person, or in any other cruel, inhuman, or degrading behavior that violates 3.04(a).

Relevant to deception, distortion, and the need for highly ethical behavior of forensic professionals, the Specialty Guidelines for Forensic Psychologists (APA, 2013; see also *American Psychologist*, 2013, Vol. 68, 7–19) state the following:

6.03 Communication with Forensic Examinees

Forensic practitioners inform examinees about the nature and purpose of the examination (EPPCC Standard 9.03; American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999). Such information may include the purpose, nature, and anticipated use of the examination; who will have access to the information; associated limitations on privacy, confidentiality, and privilege including who is authorized to release or access the information contained in the forensic practitioner's records; the voluntary or involuntary nature of participation, including potential consequences of participation or non-participation, if known; and, if the cost of the service is the responsibility of the examinee, the anticipated cost.

Guideline 1.01: Integrity

Forensic practitioners strive for accuracy, honesty, and truthfulness in the science, teaching, and practice of forensic psychology and they strive to resist partisan pressures to provide services in any way that might tend to be misleading or inaccurate.

Guideline 1.02: Impartiality and Fairness

When offering expert opinion to be relied upon by a decision maker, providing forensic therapeutic services, or teaching or conducting research, forensic practitioners strive for accuracy, impartiality, fairness, and independence (EPPCC Standard 2.01). Forensic practitioners recognize the adversarial nature of the legal system and strive to treat all participants and weigh all data, opinions, and rival hypotheses impartially.

When conducting forensic examinations, forensic practitioners strive to be unbiased and impartial, and avoid partisan presentation of unrepresentative, incomplete, or inaccurate evidence that might mislead finders of fact. This guideline does not preclude forceful presentation of the data and reasoning upon which a conclusion or professional product is based.

When providing educational services, forensic practitioners seek to represent alternative perspectives, including data, studies, or evidence on both sides of the question, in an accurate, fair and professional manner, and strive to weigh and present all views, facts, or opinions impartially.

When conducting research, forensic practitioners seek to represent results in a fair and impartial manner. Forensic practitioners strive to utilize research designs and scientific methods that adequately and fairly test the questions at hand, and they attempt to resist partisan pressures to develop designs or report results in ways that might be misleading or unfairly bias the results of a test, study, or evaluation.

The American College of Physicians Ethics Manual (American College of Physicians, 2012), in discussing disclosures to patients, states:

To make health care decisions and work in partnership with the physician, the patient must be well-informed. Effective patient–physician communication can dispel uncertainty and fear

and enhance healing and patient satisfaction. Information should be disclosed to patients and, when appropriate, family caregivers or surrogates, whenever it is considered material to the understanding of the patient's situation, possible treatments, and probable outcomes. This information often includes the costs and burdens of treatment, the experience of the proposed clinician, the nature of the illness, and potential treatments.

And, in terms of withholding information:

Therapeutic nondisclosure, also called "therapeutic privilege," is the withholding of relevant health information from the patient if disclosure is believed to be medically contraindicated. Because this exception could swallow the rule of informed consent, therapeutic privilege should be rarely invoked and only after consultation with a colleague. A thorough review of the benefits and harms to the patient and ethical justification of nondisclosure is required.

Relevant to torture and other human rights abuses documented during the still-ongoing wars in Iraq and Afghanistan, the AMA Code states:

Physicians must not be a party to and must speak out against torture or other abuses of human rights. Participation by physicians in the execution of prisoners except to certify death is unethical. Under no circumstances is it ethical for a physician to be used as an instrument of government to weaken the physical or mental resistance of a human being, nor should a physician participate in or tolerate cruel or unusual punishment or disciplinary activities beyond those permitted by the United Nations' Standard Minimum Rules for the Treatment of Prisoners. Physicians must not conduct, participate in, monitor, or be present at interrogations (defined as a systematic effort to procure information useful to the purposes of the interrogator by direct questioning of a person under the control of the questioner; it is distinct from questioning to assess the medical condition or mental status of an individual) or participate in developing or evaluating interrogation strategies or techniques. A physician who becomes aware of abusive or coercive practices has a duty to report those practices to the appropriate authorities and advocate for necessary medical care. Exploiting, sharing, or using medical information from any source for interrogation purposes is unethical.

These excerpts offer varying advice to the practicing professional. The latest amendment to the ethics code of the American Psychological Association (2016) requires a "full explanation" of assessment services and techniques. This position and other statements clearly prohibit both deceptive practices (e.g., non-disclosure and outright fabrication), as well as outright lying to clients. The APA Specialty Guidelines for Forensic Psychology, without exception, require the practitioner to inform clients of both the purpose of an assessment and the nature of procedures to be used. This position leaves little room for either non-disclosure or lying. The American College of Physicians' statement, reflecting the American Medical Association (AMA) position, requires full disclosure to patients, except when the patient may be personally harmed by such disclosure. This statement seems to allow non-disclosure under limited circumstances, but prohibits non-disclosure in almost all medical settings and situations. Both the ethical codes of the APA and AMA have essentially banned their respective practitioners from activities at high risk for human rights abuses.

This variety of opinion represents moral positions on deception and distortion by the psychological and medical professional associations. Keep in mind that promulgation of ethical standards may be cyclic in some respects. In August, 2018, the APA leadership

supported an attempt to roll back the ban on psychologists conducting national security interrogations. With their support, an item was introduced by Division 19 military psychologists at the Council of Representatives to allow military psychologists to provide treatment to detainees at Guantanamo Bay, the site of previous extensive torture and human rights abuses, and by extension allowing the interviewing and interrogation at any military facility outside the United States. The item was defeated at the APA in response to a firestorm of concerns from peace-related and legal organizations and individuals.

There appears to be no easy answers to the moral questions posed by deception and no agreement among thoughtful practitioners. Perhaps the most that individual practitioners can do is: (1) be sensitive to the moral issues involved in the detection of deception, (2) consult with colleagues on the ethics of particular practices, (3) adopt consistent procedures which address the ethical issues involved, and (4) maintain constantly updated knowledge of evolving ethical standards and practice guidelines.

In summary, the ethics of human deception can always be evaluated in terms of its consequences, while the ethics of lying (as a special case of deception) must be evaluated differently. Before adopting deceptive practices (e.g., non-disclosure), the individual practitioner must evaluate the potential harm which the practice may cause. Lying (intentional misstatement) has such general, negative consequences that it requires extraordinary justification before reasonable persons will condone it.

Research in Deception Detection

Forensic experts commonly refer to the wealth of research supporting their conclusions, predictions, and opinions. Little distinction is made between research that supports a particular theory or conceptualization and research that supports an applied prediction or classification. Any discussion of research on deception must carefully separate that research which supports models or “theories” of deception and deception detection from that which supports actual predictions of deception. Research on models and theories relevant to deception focuses on the validity of hypotheses regarding the process of deception or the process of deception detection, while research on the prediction of deception focuses on the validity of predictions of deception.

The practitioner, concerned with detecting deception in particular cases, needs to review the available research on deception. Only some of that research is immediately useful in the individual case. The following guidelines should be considered in evaluating research studies:

1. *There continues to be a fundamental problem with how models of deception and malingering have been historically framed.* In addressing this issue, Rogers (1990b, 1997) and Rogers and Bender (2018) critiqued that all efforts to improve the reliability of clinical observation are significantly compromised, if feigned psychological disturbance cannot be accurately ruled out. Rogers dismissed the Diagnostic and Statistical Manual definitions of malingering as “puritanical” because they embodied moralistic overtones. Furthermore, Rogers notes that the DSM definitions of malingering were based on assumed logical criteria as opposed to being based on any empirical paradigm.

As alternatives, Rogers (1990a, 1990b, 1997) and Rogers and Bender (2018) proposed an *adaptation model* and a *detection model*. In the adaptation model, as briefly discussed previously, malingering is the adaptive product of a perceived, aversive stressor. The stressor and the malingering response are variables that can be empirically measured. Another dependent variable is the mechanism of choice-making in weighing the expected utility of a malingered response against the probability of a desired outcome. As reviewed earlier in this chapter, Rogers differentiated the pathogenic model (psychiatric disturbance), the criminological model, and the adaptation model as representing explanatory models. The explanatory models are distinct from the detection or assessment models. Explanatory models characterize potential, antecedent variables of malingering, whereas the detection models take forensic assessment one step further and attempt to identify actual malingering incidents and behaviors.

2. *A significant relationship between a variable and deception does not necessarily indicate that the variable is a good predictor of deception.* Some research findings bear on the processes of deception and deception detection rather than on the outcomes of deception detection. Factor loading or effect size, discussed below, is much more of practical significance for prediction of deception than tests of significance.

Research on impression-management and self-presentation is clearly relevant to deception, but only some of the research is relevant to the accurate identification of individual deceivers (e.g., see Schlenker & Weigold, 1992; Kamau, 2009).

Ekman (2009) in *Telling Lies: Clues to Deceit in the Marketplace, Politics, and Marriage* described how nonverbal behaviors, such as posture, tone of voice, and facial expression, may leak information about the truthfulness of a person. Such findings provide valuable information about the processes of deception, but may not, contrary to Ekman's claims, provide reliable clues to deception in individual cases. Ekman (2009), for example, warned that these clues might be related in individual cases to genuine emotions or to the person's feelings about being suspected of lying.

In general, research reports of mean differences between groups of "deceivers" and "non-deceivers" or of correlations between test scores and malingering do not provide justification for use of the reported measures for detection of deception in individual cases. Such group differences and correlations do not address the important question of predictive accuracy. Group differences on Rorschach variables, for example, do not reflect the accuracy of predictions made with a particular cut-off score.

Even when a research finding focuses on individual prediction rather than group correlates, a statistically significant relationship does not necessarily indicate a good predictor. For over 40 years, it has been known that the value of a variable as a predictor of deception is determined by its effect size, not by its statistical significance (Cohen, 1977). Since the significance of a statistical relationship is determined in part by the sample size of the study, it is possible for a weak relationship (small effect size) to attain statistical significance. Such weak predictors will not prove useful in the prediction of individual cases. Good overall predictors of deception are those which show a large difference (effect size) between deceivers and non-deceivers.

3. *Some good predictors of deception are “locally” rather than “generally” valid.* Being bald is a good predictor that one is male, but having a full head of hair is not a good predictor of being female. Amount of head hair is a poor general predictor of sex, but being bald is a good local predictor of being male. In general, a variable may be unrelated to a criterion throughout its entire range, but still be related to the criterion within a local region of its range.

In deception research, a low value on a scale or the absence of a “sign” may be unrelated to truthfulness, while a high value or the presence of the “sign” may indicate deception. A low Minnesota Multiphasic Personality Inventory (MMPI) F-scale score, for example, tells us nothing about deceptiveness, but a high score increases the likelihood of deception. An anatomically impossible symptom predicts deception, but the presence of a plausible symptom does not predict a genuine disorder.

Such asymmetrical relationships between predictors and deception function to lower overall tests of statistical significance, which are based on the entire range of values of the predictor. Thus, it is possible for research results, which yield non-significant or small effects, nonetheless to discover good predictors of deception.

These “local” predictors of deception are most clearly revealed in decision tables rather than in t-tests or correlation coefficients. Decision tables relate ranges of values on the predictor (e.g., high, medium, and low) to values on the criterion (e.g., deceptive and non-deceptive) (Wiggins, 1973). Such classification tables permit analysis of the relationship between successive local ranges of the predictor and the criterion rather than just the overall relationship between predictor and criterion. Other tables, such as the binomial probability for forced choice measures are helpful in determining likely deception (Hall & Thompson, 2007).

4. *Different research comparisons have differing practical implications.* Published research on malingering typically involves group comparisons between: (1) normal subjects instructed to “fake bad” and normal subjects instructed to respond normally, (2) normal subjects instructed to “fake bad” and genuine patients instructed to respond normally, or (3) patients suspected of malingering instructed to respond normally and genuine patients instructed to respond normally. These three types of comparisons yield widely varying accuracy rates and resulting scales, patterns, and cut-off scores are applicable to widely different evaluation situations.

Ekman (2009) reported a group of federal law enforcement officers and a group of sheriffs to be significantly more accurate than other law enforcement peer groups in detecting laboratory deception. The greater prediction accuracy was attributed to the experience and special training of the federal officer group. In the same study, a group of psychologists who had a professional interest in deception were more accurate in predicting deception than a control group of psychologists. The significance of the study was the selectively greater accuracy of two subsets of professionals in detecting deception. Their study demonstrated deception detection accuracy with select psychologists. While an important study in the deception literature, the approach was a laboratory-based paradigm involving videotaped scenarios that were observed by the Ss. The Ss received financial bonuses if their enactments of truth or deception were

believed. The bonuses were intended to insure a “high stakes” milieu. Although better controlled than field experiments, there are limits to the practical utility of laboratory analog models.

5. *A good predictor is not necessarily a useful one.* Discovery of a good overall or local predictor of deception is necessary, but not sufficient for useful prediction of deception. It must also be shown that the predictor is useful in the situation in which it is applied. In a classic study, Meehl and Rosen (1955) discussed the influence of base rates (prior probabilities) on errors in prediction. If deception is very rare or very frequent in a particular situation, a good predictor will nevertheless produce a large number of incorrect predictions. Indeed, if the base rate is low enough, a good predictor with even a low error rate can produce more incorrect than correct predictions!

Even a predictor that produces more correct than incorrect predictions in a particular situation may not be useful. A false prediction in one situation is not necessarily as serious as a false prediction in a different situation. Falsely predicting malingering in a neurological case may have more dire consequences than falsely predicting dishonesty in hiring. The best decision rule for any given test is strictly a function of the base rate of the condition being evaluated and the relative costs of false positive and false negative decisions. Without knowing anything at all about the accuracy of a particular test, sign, or other decision rule, it is possible to define its usefulness in given situations. In general, assessment procedures for malingering will be less useful in situations with a low base rate for malingering than in situations with a higher base rate for malingering.

Of course, evaluation of the costs of predictive errors depends on one's values and one's investment in the outcome. Whether refusal to hire an applicant falsely labeled as “dishonest” is evaluated positively or negatively depends on whether you are the employer or the applicant. But the difficulty of balancing competing interests does not minimize the effect of those disparate values on the prediction process. What would be helpful is a public discussion of the relative costs of mispredicting “malingering” and of mispredicting “genuineness” in real-world situations (e.g., medical diagnosis, eligibility for disability, and need for involuntary treatment) as perceived by consumers, decision-makers, institutions, and society in general. Such discussion would help to define the type of decision rules (conservative vs. liberal) appropriate to situations with different base rates of “malingering” (low vs. medium vs. high) and with different costs of misclassification (high false-positive costs vs. high false-negative costs).

A final factor in determining the usefulness of a malingering assessment procedure is the cost of administering the procedure. A procedure, which appropriately minimizes costs of misclassifications for a given situation may not be useful if it is prohibitively expensive to administer. Most clinicians would be unwilling to spend three hours assessing the “genuineness” of a one-hour screening evaluation. However, the same three-hour assessment may be a bargain when the relative cost of a misclassification is high enough (e.g., selection of astronauts for long-term space missions). Similarly, equipment costs may offset the value of accurately classifying subjects.

6. The accuracy of an individual prediction is all-or-none. Statistics on the accuracy of predictions and classifications (e.g., valid positive rates, positive hit rates) always reflect the results of a series of decisions. An assessment procedure is used with a group of people, and the accuracy of the procedure is determined for the entire group (i.e., for the series of individual decisions). This type of accuracy information provides an empirical basis for deciding which procedures, cutting scores, signs, or other decision rules to use for particular purposes. For a particular purpose, the procedure with higher accuracy is preferable to one with lower accuracy; for a particular assessment situation, one cutting score is more accurate than another cutting score; for a given set of classificatory costs, a less costly procedure is preferable to a costlier procedure.

None of these statistics, however, reflect the accuracy of a prediction in an individual case. When an assessment procedure for "malingering" has a positive hit rate of 80% (for a particular base rate), the probability that a person with a positive score on the procedure is actually malingering is not .80. The probability of an individual prediction being correct is always either 1.0 or 0.0. A prediction in an individual case is always either correct or incorrect. The positive hit rate, valid positive rate, etc. associated with a particular procedure refer only to the relative frequency of correct decisions among a series of decisions, not to the probability of being correct in a particular case.

However, the accuracy statistics associated with a particular procedure in a particular situation can be used in a logical argument to support the decision in a particular case. Given that 80% of persons with a positive score on a malingering test are in fact malingering and given that Mr. Jones has a positive score on the test, it is "80% logical" that Mr. Jones is malingering. In other words, the claimed probability is a measure of the logical relationship between the premises and the conclusion and not a measure of the empirical truth of the conclusion. Given the following premises: 75% of persons with X, Y, and Z are malingering and Mr. Jones possess X, Y, and Z, the proper conclusion is not that "There is a 75% chance that Mr. Jones is malingering," but rather that "It is 75% logical that Mr. Jones is malingering."

Alternatively, accuracy statistics can be regarded as a measure of the decision-maker's confidence in an individual conclusion rather than as a statement about reality. A rational decision-maker would have more confidence, for example, in an individual prediction based on a procedure with a positive hit rate of 80% than in an individual prediction based on a procedure with a positive hit rate of 50%. The proper conclusion in the above syllogism is that "I am willing to bet that Mr. Jones is malingering."

With either interpretation, an individual decision is empirically either correct or incorrect, but the decision-maker has a rational basis for acting on the decision in this particular case.

Research on deception is relevant to the actual detection of deception only when it presents results on the predictive accuracy of general or local predictors of deception in research groups similar to those with whom the detection method will actually be used. These results are best evaluated in decision or classification tables, which allow determination of the error rates associated with the predictor. Predictors with low error rates must then be evaluated in terms of their usefulness in particular situations. The usefulness of a procedure involves considerations of: (1) the base rate of the condition being assessed in the situation where the

procedure will be used, (2) the relative costs associated with false positive and false negative classifications, and (3) the cost of administering the procedure. The accuracy statistics for a given procedure can be used in a logical argument that assessment results in individual cases should be used as if they were empirically true.

Diagnosis and Deception-Related Conditions and Concerns

The forensic professional needs to ensure that attempts to diagnose deception do not compromise attempts to obtain an accurate deception analysis. As noted in the Introduction, the various versions of DSM primarily deal with malingering, or faking bad, and neglect the other well-documented faking response styles.

There are some problems in using this classification system to assess deception. DSM-5 (APA, 2013) attempts to differentiate malingering from a factitious disorder and other conditions, such as somatic symptom disorder or a neurocognitive disorder where deception may play a role. In factitious disorder, the clinician is instructed to decide whether the diagnosis should be factitious disorder imposed on self versus factitious disorder imposed on another, previously known as factitious disorder by proxy. Signs for both include deliberate falsification of physical or psychological symptoms, where, in the clinician's judgment, "obvious external rewards" are not present. Bringing in a focus of avoiding the interactional components of deception, the evaluator is reminded that the diagnosis is received by "the perpetrator" [of the scheme], not the victim.

International classification of diseases (ICD)-10-CM became effective in 2015 with mandatory use for billing purposes by almost all licensed mental health professionals in the United States and Canada (ICD-11 is projected to be released in 2022). DSM-5 (and future DSMs) can still be utilized for diagnosing mental disorders, but, unless the American Psychiatric Association continues to publish this significantly limited classification system, it will likely be increasingly seen as redundant and eventually phase out of existence. Meanwhile, it is permissible (and cumbersome) to use both manuals for a single forensic case, especially since the ICD lists conditions not included in DSM-5. The ICD is hardly superior to DSM. ICD-10-CM has 68,000 codes, over 600 of which are for mental conditions. This is a degree of specification that is mere labeling by committee vote and does not include empirically based commentary. There are, for example, 20 diagnostic categories for the various subtypes of child abuse and neglect. Further, American Law Institute (ALI) and modified-ALI tests of insanity (i.e., criminal responsibility), used in most state and federal jurisdictions, *require* a diagnosis of a mental disorder for exculpation and some other conclusions. In general, the forensic professional has no choice, but to use one or both of these limited classification systems.

Summary

This chapter asserts that deception is a ubiquitous, adaptive, and detectable phenomenon. Discussions are presented on a variety of human non-violent and violent activities.

In its more developed forms in humans, deception has been elaborated into a systematic strategy for achieving specific objectives. In between these two extremes are shades of distortion, which are non-deliberate and unintentional, but which nonetheless obscure the truth.

The spectrum of deception among humans may be evaluated for its adaptive or strategic consequences, but must also be considered from an ethical perspective. Even if deception produces important outcomes, can it be recommended as a moral practice to be encouraged by society? Both ethicists and professional organizations disagree on the morality of deception in general and lying in particular.

This ambivalence toward deception is reflected throughout our culture. Socialization practices, as illustrated in the fables and fairy tales communicated to our children, glorify the use of deception by the “good guys” and vilify its use by the “bad guys.” As adults, we are quick to justify our deceptions in terms of our good intentions.

The forensic expert is not immune from these ambiguities and contradictions. Should a subject’s deception be viewed as adaptive or immoral? Is the deception intentional or non-deliberate? Is it justifiable to lie to a subject in order to unmask his pretense? How can the expert be “objective” in evaluating the deceit of another? Does scientific research really support his opinion?

Although this book cannot answer these difficult questions, it can provide a framework for detecting deception in others. This framework makes explicit the data, assumptions, and decisions of the expert and therefore makes them available to public scrutiny. Others will then be in a position to agree, criticize, argue, and debate the expert’s opinion.

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Deception and Slanted Narratives in Key Sectors of American Society

2

Introduction

Readers not interested in deception and distortion on a structural or institutional/organizational level not directly relevant to forensic settings and situations may wish to pass this chapter. Nevertheless, it is included for our understanding regarding aspects of collectively based and violence-related deception and false or largely false narratives. *Webster's Encyclopedic Unabridged Dictionary of the English Language* (1996) defines deception—an act or statement which misleads, hides the truth, or promotes a belief, concept, or idea that is not true—whereas a narrative is described in its several meanings as a story which is a story or account of events, whether true or fictitious, long or short, involving the past, present, or future, and usually told informally and as entertainment. Obviously overlapping, we find deceptions and narratives in almost all historical accounts, and they can be educational, entertaining, inspirational, or harmful in terms of consequences within a complex interplay of cause and effect.

In this book, we use a more expansive definition of narratives, which includes unconscious or conscious effects on the part of receivers, which come to underlie their thinking, feeling, and behavior. On the part of the transmitter, we focus in this chapter on deliberately contrived or heavily slanted events or stories, all with full awareness of the organization or institution which created or spread the narrative in the direction of their vested interests. These planned and orchestrated narratives are usually simple, popular stories or obvious “truths” about particular happenings packaged in science and reason and “documented” incidents. There is almost always an emotional component, which serves as a motivational leverage for believability and partially explains their appeal. Narratives from changes in government policy can and have created significant effects globally. The United States (U.S.) government presented the narrative after World War II (WWII) that we would never again initiate a first nuclear strike on the enemy. In the mid-1990s the narrative was changed, and announced to the world, that the United States had the option of first strike, even on non-nuclear armed nations.

A successfully contrived narrative and other forms of deception are marked by a contagion effect, the content of which rapidly spreads through various mediums. This is much easier in the digital age, especially if the original event cannot be directly verified without considerable delay or investigation, and the falsity is spread by highly credible or famous individuals or organizations. Think of the supposed existence of weapons of mass destruction (WMD) in Iraq, a fear incorporating the start of WWIII and contributing to the invasion in 2003 with the still ongoing destruction in that country. When exhaustive United Nations international inspections and even searches by the United States did not reveal any traces of WMD, considerable time had passed. Surveys in our country showed that recognition of the falsity of the narratives did not equate to U.S. withdrawal. Think of the largely made up Gulf of Tonkin incident promoted by President Lyndon Johnson, giving him the justification for our involvement in the Vietnam War. The incident occurred in disputed waters, and the supposed

attack on a U.S. Navy vessel by a North Vietnamese gunboat never happened. Think of the 10-week 1898 Spanish-American War when President William McKinley announced that the warship USS *Maine* had been blown up and sunk by Spanish saboteurs, giving him the pretext to invade Cuba. Subsequent investigations by independent parties showed that the explosion in all likelihood originated from *inside* the ship. But this war led to other narratives and a huge payoff, that of the United States as a “defender of democracy” and as a world class power. Think of the Mexican War, which began in 1846 when President James K. Polk proclaimed that an attack on American troops in Texas necessitated Congress declare war. The troops had been deliberately placed there to provoke Mexico. Lastly, think of the more than 500 treaties with Native American tribes from 1778 to 1871; all were violated or outright broken by the U.S. government, while only a few were violated or broken by the tribes (Toensing, 2013).

A common pattern emerges for most, but not all U.S. wars and armed conflicts. A decision is made to acquire land, power, prestige, or some other prized possession by force of arms if other means such as trade or diplomacy do not work. Narratives are contrived and spread, not allowing time for counter-narratives to emerge. A triggering event is executed creating a crisis event, which galvanizes popular opinion and makes authorization by Congress or the president relatively easy. Military intervention follows. Subsequently the deceptions are exposed as outright falsity or, at best, distorted perceptions. The counter-narratives that expose the truth generally do not lead to termination of the conflict. The offensive nature of our Vietnam War was not brought to a halt for years even after media exposure and loss of public support.

Narratives are usually successful if counter-narratives cannot successfully challenge them by evidence or rational explanations to the contrary. Narratives may be temporary or long lasting and commonly build on other narratives. Cognitive psychologist Jerome Bruner (2009) in *Actual Minds, Possible Worlds* presented convincing arguments that one way we frame our experiences by is by logic, formality, and evidence—propositional thought—which is much less impactful than narratives that are the opposite—concrete, imagistic, convincing, emotional, and clarifying in a simple way. Bruner opines that narrative thinking is the basis of almost all myth, history, ritual, and social relations. Happily for our purposes, we would add that narratives and other forms of deception hold to the same principles and empirical findings relating to these phenomena. There is hope for meaningful intervention.

A study of deception and contrived narratives that directly or indirectly supports past, present, or anticipated collective violence-related activities helps us to understand the dynamics of complex issues. It also helps us understand the often tacit and powerful influences that affect receivers of misinformation, as well as society at large. Very often, relevant organizations and institutions, stakeholders in the status quo or expansion of profits or power, come to believe the narratives and deception themselves. Almost universally, counter-narratives are vigorously opposed. A key dynamic appears to be their unwillingness to give up sufficient power or resources to prevent or reduce harm from their collective efforts. Over time, this contributes to the formation of a rigid, interlocking system of stakeholder interests impervious to real change, even when all parties are ultimately harmed.

Fulminating toward chaos for the last several decades, but spiraling nearly out of control since 9-11, our nation, according to many, seems to be fundamentally off course and engaged in unprecedented destructive acts toward itself and other peoples and nations. The current COVID-19 pandemic has, according to many experts as well as the media, been badly mismanaged by our government leaders starting with a false narrative that the problem was overblown. Current trends suggest that the consequences of the pandemic could likely dismantle society as we know it. Yet our involvement in destructive acts and endless wars continues. We

have initiated conflicts or supported proxy wars directed at Muslim countries or groups—Afghanistan, Iraq, Libya, Yemen, Syria—and conducted special operations and numerous drone attacks in other sovereign nations in both the Eastern and Western Hemispheres. As of 2020, there were dozens of wars ongoing in the world including the longest ever wars for the United States in Iraq and Afghanistan. We have over 900 military installations around the world and about 200,000 soldiers and marines stationed outside our country (Mak, 2011). War is big business and draws goods and services from businesses throughout our land. It may be that without our continued involvement with war and war-making activities, the U.S. economy would be thrown into a deep economic downturn.

Over the 18 years since 9-11, the war on terror has killed over **801,000 people** due to direct war violence and will cost the United States **\$6.4 trillion** by the end of 2020, according to research-based reports produced by Drs. Neta Crawford, Catherine Lutz, and other investigators at the Watson Institute at Brown University, Costs of War Project (November 13, 2019, <https://watson.brown.edu/costsofwar>). Findings include the following: The U.S. government is conducting counter-terrorist activities in over 80 countries, vastly expanding this war across the globe. The number of people killed includes over 335,000 civilians, nearly 42% of the total, but does not include indirect deaths to civilians from sickness, starvation, suicide, or other like causes. Indirect deaths are estimated to be about 4 times higher, which means that total deaths during the post-2001 period are likely to reach **3.1 million** or about 200 times the number of U.S. dead. There are an estimated **21 million war refugees** and displaced persons as a result of the conflicts. The wars have been accompanied by the erosion of human rights and civil liberties in the United States and abroad, far beyond the unprecedented and horrific torture-related activities sanctioned by the Bush administration. Over 6950 U.S. soldiers and Marines have died in the wars, and the number of troops injured or afflicted with physical or mental conditions is unknown, but likely to be many times this number. Both Iraq and Afghanistan continue to rank extremely low in global studies of political freedom. The report predicts that “the human and economic costs will continue for decades with some costs, such as the financial costs of U.S. veteran’s care, not peaking until mid-century.”

Obstacles to public understanding of the human and monetary loss of waging war, according one study of the Watson Institute project (Aftergood, 2019), include: (1) the massive scale of the U.S. defense budget, currently on the order of \$700 billion, which few individuals can comprehensively understand; (2) secrecy and proactive deception regarding relevant information, where over-classification of material is routine; and (3) our practice of deferral of financial costs into the future by meeting obligations through deficit spending. This last obstacle disables the feedback loops that are a central feature of deliberate democracies, reduces further public awareness of U.S. military operations, as well as pushing the costs to future generations.

Not mentioned in the Aftergood (2019) report as an obstacle to understanding is the perception of many Americans that the costs of warfare and constant violent conflict are necessary to meet the threats of our designated enemies. Keep in mind that violence and the threat of violence is an interactional phenomenon, and that exhibited violence begets revenge-based violence from the victims. The collective violence of Russia and China, for example, with their own slanted narratives and host of deceptive tactics, is considerable. Since 9-11, Russia has directed military action in the Second Chechen War (1999–2009), the Russo-Georgian War (2008) involving Georgia, South Ossetia and Abkhazia, the insurgency in the North Caucasus (2009), the takeover of Crimea and military action and proxy war in the eastern portion of the Ukraine (2014–present), and the ongoing conflict in Syria

(2015–present). Russia has stepped up efforts in at least 13 countries in Africa to bolster its military presence and supply Russian-made military equipment (Harding & Burke, 2019). China has violently suppressed the “terrorist” Uihurs in the Xinjiang Province, with arrests, torture and killing of dissidents, and established concentration camps for hundreds of thousands of Muslim people of the region. Conflict with the United States over islands in the South China Sea continues and easily could flare into violent confrontations. The current trade dispute is a significant unresolved issue, which many consider to be the result of unfairness on the part of China. In essence, not just the United States, but many of the world’s countries and groups are perceived to contribute to the sad state of collective violence.

We may have already passed a critical juncture in our history. Findings from the Watson Institute show that the war on terror is not winding down, but since 9-11 has spread to over 80 countries including over a dozen countries where U.S. service members were involved in combat or took direct action against militants in cooperation with the country (Savell, 2019). Seven countries are involved in direct air and drone strikes on our perceived adversaries (Savell, 2019). As stated, mainstay sectors of the United States—the defense and intelligence establishment, economic, media, financial institutions—heavily support our collective violence efforts. Democratic safeguards have been progressively compromised by a constellation of events and the start of a shift to a society characterized by the haves and have nots. An authoritarian-based oligarchy seems in the making. Climate change has continued at an accelerating rate along with massive environmental destruction and species eradication despite the availability of solutions and resources. Within our borders, we have increasing homelessness, gross income disparity between the wealthy and common people, loss of confidence in government, increased surveillance and intrusion into the life of average Americans, largely unpreventable terrorist attacks, and a \$23 trillion national debt that no credible source has claimed could be paid off without a massive economic meltdown. These trends are likely to continue.

We can study the literature to enhance our understanding. Principles of individual and collective violence have been isolated from extensive literature reviews and data-based investigation (Hall & Whitaker 1999; Tilly, Tarrow, & McAdam, 2019). We have empirical evidence from a variety of data-based studies including those from the World Health Organization that collective violence does indeed beget more violence if the opportunity arises, and this creates cycles of progressively intractable conflicts. Acts of collective violence and conflict generate more of the same and tend to strengthen the underlying conscious and often unconscious narratives used to support such harm. In the process of preparing for, conducting, and recovering from war and conflict, narratives and counter-narratives are almost always contrived and spread in the direction of vested interests.

Collective Violence and Justification through Narratives and Other Deception

Let’s step back for a moment in terms of our history of collective violence. Although the threat of extinction of the human species due to nuclear conflict is unique in our recent history, war and the integral part played by deception and distortion itself is not. Truth indeed is the first casualty of war. On a global level, the story of humankind over the millennia describes the spread of imbalanced, but militarily superior civilizations and

societies by violent means. Most national boundaries are written in blood. The 5600 years of recorded history have produced more than 14,600 wars, at a rate of about 2.6 wars every year (Baron, 1977, 2013). Only 10 of the 185 generations of humans in recorded history have been free of war. The period between the end of WWI (1919) and the entry of the United States into WWII (1941), during Prohibition and the Great Depression, our nation was free of war or armed conflict. Every decade since the American Revolution, by comparison, was marked by war or armed conflict. As we have discussed, war and conflict has increased since 9-11. Pinker (2013) of Harvard University, in a book filled with charts, figures, and tables, representing a new orthodoxy, however, maintains there has been a decline in collective violence over the centuries and in recent times. His view is disputed on various grounds by Gray (2013), to include Pinker misusing statistics and the absence of addressing the underreporting of collective violence due to denial, cover-up, and false narratives. As we have seen, there is a marked increase in both terrorist activity and our proactive conflicts around the world that occurred after September 11, 2001.

Deception and controlled distortion through narratives has always been considered integral to victory by militaries throughout history. In the U.S. military and intelligence services, deception is considered a “force multiplier” in that the desired results of deception are often disproportionately greater than what would be expected from available resources to meet a challenge (e.g., training foreign nationals in unconventional warfare to advance American interests; developing an electromagnetic pulse nuclear weapon to disable the electronic capability of large areas of enemy territory; night vision scopes on sniper rifles; and weaponized drones which cannot be seen or anticipated). In addition, force multipliers are often justified in narratives and outright deceptions as beneficial—low relative cost in terms of dollars and American lives lost.

The history of deceptive practices in the military provides examples of methods of execution and deception detection (Handel, 1977, 1982; Reit, 1978; Whaley, 1969, 1981, 1982; Wiseman, 1996; Wrangham, 1999; Hall & Poirier, 2001). Vast sums of money have been spent by the federal government in the systematic study of operational deception, principles of which have been applied in modern American wars. The best news for the military and intelligence services is that deception seems to work in most cases given adequate planning and execution, which accounts for its high favor and continued use. Handel (1982, p. 145) observed the following:

Since no effective measures to counter or identify deception have yet been developed, the inevitable conclusion is that deception—even if it does not achieve its original goals—almost never fails and will therefore always favor the deceiver, the initiating party... Perceptual and cognitive biases strongly favor the deceiver as long as the goal of deception is to reinforce a target’s preconceptions or simply create ambiguity and doubt about the deceiver’s intention... Rationality dictates that a move which involves little cost and little risk of failure should always be included in one’s repertoire.

Deception is also viewed favorably by the military because it often contributes to success when combined with other assets. The U.S. military frequently uses the teachings of Carl von Clausewitz’s *On War* (Howard & Paret, 1976), the writings of Whaley (1982), and to some extent Handel (1982), to describe a variety of deceptive operations. These include deception by hiding (i.e., termed *masking*, *repackaging*, and *dazzling*) and by presenting the false (i.e., termed *mimicking*, *inventing*, and *decoying*).

Some principles of military deception from the above literature follow, along with the potential relevance for forensic professionals:

1. Select a long-range goal with a definable outcome
 - a. Military strategists are often willing to achieve their objectives with substantial casualties
 - b. Defendants in criminal settings may attempt to escape the full consequences of their conduct by pleading to a lesser charge; those in civil settings may settle for a cash settlement regardless of the merits of the case
2. It is important to determine how the target should respond and what they should think as a consequence of the deception. This may involve character analyses of enemy leaders and troops as well as support personnel
 - a. Movement in a certain direction, in order to breach the one target, only to strike in another direction is an example of fooling the enemy. The enemy should think that a distinct advantage will accrue with the original attack
 - b. Defendants in insanity trials may want the trier of fact to “award” them the not guilty by reason of insanity verdict. They hope that the trier of fact will think that they are in need of psychiatric help and are not playing them. The rewards of the not guilty by reason of insanity are substantial, so every effort is made to convince the judge and/or jury, as well as the opposing attorney. The motivation for deception may be high (e.g., food is better in state psychiatric facilities compared to correctional or detainment centers; chances of physical and sexual assault are diminished in a state hospital; and release is considered in many states in psychiatric facilities on a yearly basis as opposed to a minimum term of imprisonment, as set by the parole board)
3. Decide what is to be hidden and what is to be falsely shown to the enemy. Hiding and showing are best when they are presented simultaneously. Hiding the real involves passive deception. Descriptors include *covert*, *obscure*, *deny*, *minimize*, *mask*, *camouflage*, and others. Some examples include:
 - a. Masking: Smoke screens cover friendly forces in combat
 - b. Past violence consisting of predatory aggression is often denied by a defendant
4. Repackaging: Disguise hides the real in this type of fakery
 - a. A warship may be disguised as a freighter to lure enemy ships within range
 - b. Defendants often change appearance for court. Dress is made conventional (defense attorneys typically object to their clients appearing in prison garb). Tattoos on the arm and neck are often covered by long sleeves. A ratty facial appearance may be helped by a haircut and a clean shave. This is impression management, so that the trier of fact does not associate the defendant with a criminal subculture or other negative stereotypes. In essence, the defendant attempts to create a counter-narrative to the picture painted by inculpatory evidence and violent crime scene information
5. Dazzling hides the real with an attempt to have the receiver misperceive friendly assets
 - a. Zigzag patterns are painted on war vessels
 - b. Random patterns may be produced by defendants on testing in order to appear confused or cognitively challenged

6. Presenting the false involves active attention and focused behaviors
 - a. Mimicking involves fake imitation or copying. Cooks posted as infantrymen may bolster the apparent strength of combatants when viewed by the enemy. This deception takes time and energy and is usually temporary
 - b. Forensic litigants may find it difficult to sustain a faking style due to the attentional demands of portraying deception
7. Inventing: Presents or creates something entirely new
 - a. Rubber tanks and wooden guns may mislead the enemy into believing in a false capability
 - b. Fabricating bizarre symptoms, such as visual hallucinations in otherwise non-psychotic persons sometimes occur
8. Decoying involves inverting and distracting the attention of the opposition by falsely presenting a second pattern
 - a. Diversion in one battle zone with an attack in another is frequently employed by the military
 - b. Entering psychotherapy to create a basis for favorable results in civil litigation or a lesser sentence in criminal proceeding is sometimes suggested by defense attorneys
9. Opportunity variables to set a deceptive plan into operation must be available
 - a. Weapons, transportation, and logistical supply are critical elements in warfare and conflict
 - b. Some criminal defendants, through their attorneys, seek out forensic professionals whose outcomes in evaluations are largely known beforehand
10. The deceptive message must be sent to the target without confusion or fanfare. Requests for feedback are frequent
 - a. Surrender leaflets must be read, seen as relevant, and construed with the intended meaning
 - b. Forensic litigants may attempt to convince the evaluator of his or her genuineness and favorable personality traits by presenting irrelevant stories of their positive behavior. Some litigants request feedback regarding the likely conclusions of the evaluation. A cardinal mistake on the part of the evaluator is to comply with that request as opposed to clinical cases where feedback is appropriate

Nuclear Weapon Issues and Deception

There is considerable controversy regarding whether it was necessary to drop nuclear bombs on Hiroshima and Nagasaki or whether the Japanese would have surrendered anyway. A counter-narrative eventually emerged to the effect that the primary purpose was to intimidate the Soviets coming down through Manchuria and announce to the world that the United States had the most powerful weapon ever devised. A number of post-WWII narratives which held that atomic testing was harmless to the population and that Americans could survive the residual radiation effects of a nuclear strike were eventually destroyed by counter-narratives. The authors recall drills in school to hide under

the desks or behind a wall to escape the deadly effects of a nearby thermonuclear blast. By the 1960s, these civil defense actions disappeared from the American scene as mounting evidence suggested the exercises were futile and only created fear as well unnecessary expense to build the recommended bomb shelters. Evidence that radiation effects of nuclear testing were harmful to humans took over a half-century to be known to the general public, although the government knew quite well from field investigations and covert experiments

President Bill Clinton courageously decided over the vociferous objections of the Department of Defense (DOD) and the Central Intelligence Agency (CIA) to form a task force and release classified information on the human radiation experiments conducted by the U.S. government (Faden, 1996). This comprehensive report shows that the approximately 4000 human experiments continued for 30 years, from 1944 to 1974, and involved widespread deception and misinformation by government spokespersons when the media ran stories in the 1960s and 1970s. These horrific experiments involved as subjects disadvantaged Americans, minorities, prisoners, unsuspecting children, and soldiers ordered to participate. The report describes a wealth of original documentation from the Atomic Energy Commission and other federal sources. Many participants developed malignancies and fatal medical conditions. The advisory board ironically concluded that the studies do not improve our national security.

Until Faden (1996) and news accounts of nuclear tests, it took a considerable delay for the counter-narrative to coalesce that humans and the environment are continually harmed by nuclear testing. Of the over 2000 tests of nuclear bombs that have been conducted worldwide, 520 have been atmospheric tests and 8 underwater, with a total yield of 545 megatons. Not well publicized, assessments by the United Nations estimated that atmospheric tests, before they were banned in the late 1950s, could easily lead to 1.2 million fatal cancers and a host of other ailments (Beardsley, 1995).

Weaponized Drones

As a member of the American Psychological Association (APA) Division 48 Presidential Task Force (2013–2014) on weaponized drones, the senior author reviewed the psychological and psychosocial effects of drones, deception employed in drone operations, and false narratives used to mollify the public (Hijazi et al., 2017). Despite the positive narratives, drones have very limited built-in capabilities for clarifying distortion (e.g., differentiation of friendly versus enemy personal, differentiation of active enemy units from collaterals, and acceptable versus inappropriate targets). In other words, victim death by algorithms that do not require verification of identity.

Theory, models, and experimental findings in the behavioral science literature can be explored in order to bring to light the false narratives and deception in drone warfare. How can people use mechanisms that allow them to disengage from their normal moral understandings? The Hijazi et al. (2017) review discussed, but did not judge explanatory studies which found frequent use of euphemisms, displacement of responsibility, dehumanization and deindividuation, and other features of drone warfare (see Wilson, 2011). An unproved argument that bolsters the positive narrative goes like this: Since the multiple tasks in drone operations are shared by many persons within a tightly controlled bureaucracy, no individual moral harm is done to oneself by the drone strikes. The authors suggest that the use

of euphemisms—"collateral damage" and others, for example—would be another area of needed research. Misrepresenting or disregarding the negative effects of weaponized drones are cognitive dynamics which should be systematically investigated.

The perception of immorality allegedly practiced by the adversary may likely contribute to the intractability of conflict, as well as whether a particular war is won or lost. *Indeed, research suggests that wars perceived as morally unjust by the international community tend to be lost* (Adams & Barrie, 2013).

Several hundred violence-related investigations and reviews have been conducted during the last half century (e.g., Hall, 1996, 2008; Hall & Whitaker, 1999; Hall & Ebert, 2002; Hall & Pritchard, 2002). Findings suggest two basic types of human violence: (1) *impulsive violence*, which is emotionally charged, disorganized, violence and (2) *highly controlled violence*, which is focused, organized, and makes use of more complex deception strategies. Controlled collective violence also involves a high degree of goal formulation, high clarity of thought, low expression of emotion, rapid habituation, organized execution of plans, focused awareness, and less likelihood of displacement to victims other than the primary target. It also entails frequent flexible changes, with the violence itself followed by likely attempts to hide, avoid, and conceal. Violence by drone operators and crews, and indeed most forms of violence by the military, closely fits the controlled type of violence and therefore is the product of organizational and individual choice.

Self-deception and burnout in drone warfare is frequent. Given that drone pilots likely engage in killing and witness the impact of their confirmed killing on screen, it is likely they may experience negative psychological outcomes in response. MacNair (2002) studied perpetrator-induced traumatic stress leading to posttraumatic stress disorder (PTSD) symptoms in response to enacting violence. She found higher PTSD scores in American Vietnam War veterans who had killed someone than in those who had not, even when killing was in a sanctioned military context. Similarly, Maguen et al. (2009) found that after accounting for general combat experience, killing combatants or non-combatants was associated with PTSD, dissociation, functional impairment, and violent behavior in American Vietnam War veterans. Greater frequency of killing was associated with twice the odds of suicidal ideation, compared to no or low killing, even controlling for combat exposure, PTSD symptoms, and depression (Maguen et al., 2009).

Studies investigating burnout among remotely piloted aircraft (RPA) operators found that nearly half reported being stressed to extremely stressed (Chappelle, Salinas, & McDonald, 2011), with 20% reported feeling emotionally exhausted, a key dimension of job burnout, and 11%–14% having high scores on the cynicism facet of burnout (Chappelle, Salinas, & McDonald, 2011; Chappelle et al., 2014). These rates were higher than in non-combatant airmen (Chappelle, Salinas, & McDonald, 2011). Rates of clinically significant emotional distress among RPA operators were found to be around 20% (Chappelle, McDonald, Thompson, & Swearengen, 2012), and approximately 4%–5% of RPA operators in two studies affirmed moderate to severe PTSD symptoms that would meet the criteria for diagnosis of this condition (Chappelle, McDonald, Thompson, & Swearengen, 2012; Chappelle, Goodman, Reardon, & Thompson, 2014). Results suggested underreporting in that these rates were lower than those of the Air Force overall (Otto & Webber, 2013). Chappelle and McDonald (2011) proposed that unlike the typical PTSD of soldiers in response to clear external dangers and despite the positive narratives the military associates with their work, RPA operators may experience existential conflict, guilt, and remorse over their perceptions of themselves as aerial snipers, witnessing collateral damage following their strikes, and being psychologically attached to the combatants.

Moral injury is a relatively new term garnering increased attention. It is defined by Litz et al. (2009) as “lasting psychological, biological, spiritual, behavioral, and social impact of perpetrating, failing to prevent, or bearing witness to acts that transgress deeply held moral beliefs and expectations.” According to Stein et al. (2012), combat acts that involved moral injury to self were significantly associated with various dimensions of guilt and with severity of re-experiencing symptoms compared to other combat acts. Among combat veterans, moral injury is also associated with depression, anxiety, guilt, shame, loss of self-worth, and existential and spiritual issues, such as loss of meaning, spiritual conflict, and questioning one’s morality (Vargas, Hanson, Kraus, Drescher, & Foy, 2013).

The impact on civilians and collaterals: The impact of drones on targeted societies is largely concealed from the public due to the classified nature of drone missions, and the reluctance of civilian victims to talk for fear of retribution. Hence, minimizing and denying important information along with problems with access to affected areas to learn about incidents of drone attacks emerge as significant problems. Most of the information stems from reports by non-governmental organizations and academic legal centers, which generally are conservative if not outright concerned with liability issues.

Let’s return for a moment to a key narrative by the military and U.S. government, which holds that drones are more precise than typical aerial bombings, while causing minimal collateral damage. There continues to be considerable disagreement as to how accurate these supposedly pinpoint drone assaults are, and how many civilians are actually killed (Deri, 2012). The independent Bureau of Investigative Journalism (Woods, 2012) noted that between 2562 and 3325 people in Pakistan have been killed by drone strikes between 2004 and 2012. Of these totals, 474 to 881 have been identified as civilians, including 176 children. Data suggest that civilians make up approximately 10% of the casualties in drone strikes in Pakistan and Yemen. Negative psychological effects, including PTSD, are likely (Amnesty International, 2013). Drones may hover over targeted areas for hours as part of constant surveillance missions. Civilians describe feeling severely stressed, depressed, anxious, and being constantly reminded of deaths in prior strikes (Amnesty International, 2013). Children were particularly affected and reported nightmares of dead people, fears of going to sleep, and fears they will be harmed by drones (Reprieve, 2013a, 2013b).

Two aspects that may exacerbate psychological problems include the military’s policy of conducting “signature strikes” with “double taps.” A signature strike, rather than targeting an individual, is based on the analysis of cardinal behaviors associated with suspicious or militant activities (Amnesty International, 2013). That these strikes are not based on a specific militant’s identity serves to heighten their unpredictability. Double taps are a series of strikes over the same target area in rapid succession. The deception for victims is that they generally expect a single strike. Although drone operators ostensibly seek to ensure that collaterals are not killed, these double taps have been reported to kill or maim first responders and other community members rescuing victims of the original strike. Their unpredictable nature and the death of rescuers may prolong the state of terror and heighten feelings of helplessness and uncontrollability in the community (Basoglu, 2012). They also deepen moral repulsion toward the United States and are a productive recruiting tool for our adversaries.

Psychological findings about civilians impacted by the strikes discussed above suggest some linkage between the drones’ impact on communities and negative attitudes toward the United States. For example, a major poll revealed that only 17% of Pakistanis supported

drone strikes in the federally administered tribal areas and 74% considered the United States to be their enemy (Pew Research Center, 2012). Other evidence from Israel suggests that targeting from rocket strikes hardens victims' perspectives toward groups perceived as initiating those strikes (Canetti-Nisim Halperin, Sharvit, Hobfoll, 2009). These results suggest that airstrikes tend not to weaken the resolve of target communities. Their continued use, however, is almost certain.

Military Personnel and Deception

Dishonesty and deception by both U.S. officers and enlisted personnel is of increasing concern and impacts upon vital national security interests. Secretary of Defense Chuck Hagel, before he was asked to resign in 2015, stated he was "deeply troubled" by ethical scandals within and across the military (Clark, 2014) and agreed with flag-ranked officers that there was a breakdown in ethical behavior and in the demonstration of moral courage.

Dishonest behavior included nearly half of the Air Force nuclear missile launch officers at one base who were involved in or knew about cheating on an exam on missile systems (Cooper, 2014). Thirty navy senior enlisted instructors for nuclear reactors were implicated in giving answers to trainees on a written test in the Obama administration (Freeberg, 2014).

Wong and Gerras (2015) in the long-awaited Army War College report on dishonesty in the military, indicated that many army officers, after repeated exposure to overwhelming and commonly perceived unreasonable demands and requirements from above, become ethically numb, and as a result "an officer's signature and word have become tools to maneuver through the Army bureaucracy rather than being symbols of integrity and honesty. Sadly, much of the deception that occurs in the profession of arms is encouraged and sanctioned by the military institution....". Although hardly new in American history, the U.S. military in contemporary times has produced a "culture of dishonesty" according to Wong and Gerras (2015). They make the point that the system is largely impervious to change because institutional demands in the military are based on increasingly unreasonable expectations for the rank and file.

Wong and Gerras (2015) conclude with the following stark analysis: "Ethical fading and rampant rationalizations have allowed leaders to espouse lofty professional values while slogging through the mire of dishonesty and deceit. The end result is a corrosive ethical culture that few acknowledge and even fewer discuss or work to correct."

According to various commentators on military deception, personality traits associated with good deceivers include imagination, practicality, knowledge of the relevant culture and history of targets, and empathy, with the ability to see things from the receiver's viewpoint. Other traits include high competitiveness, individualism, and a significant amount of asociality. Research suggests similarities in personality and cognitive styles among U.S. military leadership, who typically have to completely endorse the narratives imposed from above. Moraski (2002) found that 95% of senior military leaders are "thinkers" on the Myers-Briggs Type Indicator (Myers, McCaulley, Quenk, & Hammer, 1998) and only 5% are "feelers," who rely on emotion rather than cognition for decision-making. Almost 80% of middle grade to flag-ranked officers had 4 of 16 possible personality styles. Based upon the Keirsey-Bates Temperament Scale (Keirsey, 1998, 2002), and the above results, a constellation of traits emerges for senior leaders, including a strong goal-orientation, ability

to think abstractly as well as concretely (e.g., for both long-term strategy and short-term tactics), well-developed executive skills, the ability to adapt and improvise in planning or executing an operation, medium to low people-orientation, and low feelings of empathy. Such a constellation of traits suggests military leaders are quite capable of higher order deceptive strategies and policies, as history bears out.

The dangers of military deception coupled with slanted, but convincing, narratives are substantial. The biggest error is self-deception—believing and acting on one's own self-deception and controlling narratives. Time and again, moreover, leaders are seen to display unjustified arrogance because of a few initial successes. Failed deception and biased narratives are often the result of the deceiver's overconfidence. They are quite capable of fooling others and instilling false perceptions in the target person or group.

Deception and False Narratives in Economics

The financial and business sectors in this country are inextricably intertwined with the defense establishment. The narratives supporting these efforts include, but are not limited to, the need to increase our military and intelligence capabilities, the stories touting U.S. victories and individual acts of heroism, the appeal to patriotism, the moral and legal obligation to pay our taxes as an act of loyalty, the wisdom of hiring veterans, and huge profits to be made. A new and thoroughly documented report identifies the banks across the world investing in nuclear weapons production, and how much they invest. The top 10 investors are all U.S. companies and include Vanguard, BlackRock, Capital Group, State Street, Newport Group, T. Rowe Price, Bank of America, and JPMorgan Chase (Snyder, Beenes, Walstra, Riemersma & de Wilde, 2019). Significant investors in nuclear production also included BNP Paribas, Citigroup, Royal Bank of Scotland, Wells Fargo, SMBC group (Japan), and Mitsubishi UFJ Financial. Over \$748B was invested by the top 18 nuclear weapons investors between January 2017 and January 2019. This represents a 42% increase since the report several years previous. The \$748B USD overall represents 325 investment institutions in over 28 countries.

Most Americans who do business with financial institutions or even use a credit or debit card are involuntarily, but unavoidably part of the deep economic support for our wars and conflicts. A warning here is that throughout history, most weapons developed for war or other violent conflicts were ultimately used. Together with the pervasive investments and businesses providing non-nuclear defense services, a precarious military and economic picture emerges. An economic collapse could be predicted if suddenly investment and other monetary support for our many conflicts were terminated.

Nobel economist Robert Shiller (2007, 2017a, 2017b), who predicted the global financial near-collapse of 2008, reveals how manipulation and deception and false narratives are integral to how markets function. He maintains they are designed to systematically exploit our psychological weaknesses and ignorance. In September 2007, almost one year before the collapse of Lehman Brothers, Shiller wrote an article in which he predicted an imminent collapse in the U.S. housing market, contributed to in part by the deception toward house buyers and fraudulent pronouncements to the public about the supposed robustness of the market. In June 2015, Shiller again warned of a potential for a substantial drop in the stock market. Two months later in August, a flash crash occurred in individual stocks.

Two years after that in 2017, he called Bitcoin the biggest bubble at the time. In 2018 in a crypto bust and market crash, Bitcoin lost about 50% of its value—\$10,000 alone in May, 2018, down from \$20,000 in December.

Shiller (2018) warned that an economic crisis is brewing because of trade tensions and tariffs imposed by the United States on China and other countries, including our own traditional allies. He predicted that the worst effects of a downturn will not occur for some time, perhaps a year or more and likely by 2020. He sees President Trump's need for showmanship and deceptive motivation, attempting to maintain the false narrative of his celebrity status, as the proximate cause of these dangerous economic developments.

Richard Wolff (2017), an economist who specializes in the online teaching of the economics of deception through *Economic Update*, *Democracy at Work*, cited data showing some of the negative features of the economy. Millennials compared to their parents at the same age make 20% less income, have more student debt, and no pension to look forward to. He pointed out that Americans now die younger—27th in the world—despite spending the most per capita on healthcare. Wolff points out that the United States now has the 4th highest mortality rate in the world. He discussed the huge shift of jobs overseas and the failed attempted return to a robust economy by the government and corporate America. Wolff opines with many others that most Americans now cannot better their economic situation. It is not a matter of more hard work. The American dream, the ultimate motivating narrative, he maintains, is gone and is not coming back in the lifetime of most wage earners alive today. Wolff (2017) also predicts the next economic crisis in this country will occur in the near future.

Surprisingly to many, some of the most successful deceivers are found among the wealthy elite in our society in corporate boardrooms, financial companies, and political leadership. Roy Eidelson (2018), former executive director of the prestigious University of Pennsylvania Solomon Asch Center for Study of Ethnopolitical Conflict, explored these deceptions and false narratives in *Political Mind Games: How the 1% Manipulate our Understanding of What's Happening, What's Right, and What's Possible*. Eidelson (2018) documents and lists the psychological fears, aspirations, and hopes that plutocrats target with lies, misrepresentations, and false narratives. He maintains that their systematized deceit and programs are designed to preserve and further their own wealth and power. He cites cross-validated statistics that show that the financial assets of the richest 1% of Americans equal those of the bottom 90% of all households in this country (the Walton family alone has more wealth than the bottom 40% of Americans). Top executives of standard & poor (S&P) 500 companies receive, on average, over \$10 million in yearly compensation, their earnings in a single day as much as typical W2 employees make in a year. Eidelson (2018) points out that inequality in America is the driving force behind diminished physical and mental health, longevity, trust, economic growth, and many other factors. Explicit links have been established with heightened levels of infant mortality, obesity, crime, violence, drug abuse, and rates of incarceration.

Eidelson (2018) provides concrete examples of exploitation by false narrative and deception. The American petroleum industry supports a mega-millions dollar endowed lobbying group designed to block legislation unfavorable to the industry, insisted that fracking was entirely safe along with disparagement of any person or organization with a variant opinion. Walmart has retaliated against worker activism, even shutting down plants controlled by the company in several states to nullify opposition. One entire U.S. meat-cutting operation owned by Walmart was shut after a few butchers in a single store voted

to unionize. As Eidelson reports (p. 49), “With massive funding from the Koch brothers, Americans for Prosperity is among the political advocacy groups that have extended their reach to the campaigns of state-level judges,” punishing justices for platforms or rulings the partisans do not favor. And (p. 51): “Employees who raised questions about suspect and fraudulent mortgage practices at the country’s largest lenders and banks—Countrywide Financial, Wells Fargo, and Washington Mutual, among others—were reportedly harassed, muzzled and fired.”

Politically Based Narratives and Deception

Recent work regarding a form of faking good and self-deception shows the appeal of shifting to untestable beliefs and popular, but irrelevant, narratives when people’s fact base is compromised (Friesen, Campbell, & Kay, 2014). This is a slippery way by which people, especially politicians and other leaders, get away from facts that contradict their views, making logical arguments and science irrelevant to the issue. They state:

We propose that people may gain certain “offensive” and “defensive” advantages for their cherished belief systems (e.g., religious and political views) by including aspects of unfalsifiability in those belief systems, such that some aspects of the beliefs cannot be tested empirically and conclusively refuted. This may seem peculiar, irrational, or at least undesirable to many people because it is assumed that the primary purpose of a belief is to know objective truth. However, past research suggests that accuracy is only one psychological motivation among many, and falsifiability or testability may be less important when the purpose of a belief serves other psychological motives (e.g., to maintain one’s worldviews, serve an identity). ...We conclude by discussing how in a world where beliefs and ideas are becoming more easily testable by data, unfalsifiability might be an attractive aspect to include in one’s belief systems, and how unfalsifiability may contribute to polarization, intractability, and the marginalization of science in public discourse.

And:

These results and speculations suggest that unfalsifiability may be a dangerous force in society at large. Though it might benefit individuals psychologically or groups socially, unfalsifiability might also lead people and societies to continually make truth-defying decisions.

Recall from earlier chapters that deception is ubiquitous and viewed favorably if it works. Such deception is almost always ego-syntonic and justifiable to the inducer of a falsehood.

Although we Americans want honest leaders, the truth may be that we really want effective leaders, as deceit is often deemed necessary to accomplish goals. Machiavelli offered in *The Prince*:

Everyone admits how praiseworthy it is in a prince to keep his word, and to behave with integrity rather than cunning. Nevertheless our experience has been that those princes who have done great things have considered keeping their word of little account, and have known how to beguile men’s minds by shrewdness and cunning. In the end these princes have overcome those who have relied on keeping their word.

Deception becomes problematic in political leaders when it is coupled with mental illness. Some historical investigations suggest the presence of mental illness in a substantial

number of U.S. presidents, as well as exaggerated tendencies toward deceit. Davidson, Connor, and Swartz (2006) did a systematic review of likely mental disorders for all holders of that office. Diagnostic and statistical manual (DSM)-IV criteria were used, and levels of confidence were proffered for each diagnosis. Almost half of the presidents met the criteria for a mental disorder including, as most common, depression (24%), anxiety disorder (8%), and alcohol abuse/dependence (8%). A disorder was evident during the term of office for 10 (27%) of our presidents.

Three presidents with likely mental illness, as speculated by Davidson and colleagues (2006), were engaged in significant prevarication and false narratives to include: (1) as shared, President Johnson spoke on national TV on the righteousness of the Vietnam War using the fabricated Gulf of Tonkin incident leading to a Congressional resolution, which gave him almost unlimited power to pursue the war. Once in the war, Johnson himself admitted in 1965, “For all I know, our Navy was shooting at whales out there”; (2) President Nixon, a serious drinker who, according to Davidson et al. (2006), met the criteria for alcohol abuse, invented a mass of lies and deceitful behavior involving Watergate, the “secret plan” to end the Vietnam War, the invasion of Cambodia without any authorization or legitimacy whatever, and approving the assassination of foreign leaders through the CIA; (3) Abraham Lincoln may have had a major depressive disorder, recurrent, with psychotic features, as offered by Davidson et al. (2006). He lied on racial matters, along with other deceit, including the explicit denial of the equality of blacks (e.g., “I will say then that I am not, nor ever have been in favor of bringing about in any way the social and political equality of the white and black races—that I am not nor ever have been in favor of making voters or jurors of negroes, nor of qualifying them to hold office, nor to intermarry with white people...”).

Other U.S. presidents whose names are associated with significant deception and false narratives to further their career are: James K. Polk, John F. Kennedy, Franklin D. Roosevelt, Bill Clinton, George H. W. Bush, and George W. Bush. We also have to consider presidents who may have shown unintentional distortion. President Wilson, for example, had both an anxiety and depressive disorder, as well as a personality change due to a stroke. Davidson et al., noted that Ronald Reagan lied about the Iran-Contra Affair, and that he may have suffered from dementia in the last years of office. Keep in mind that lying or having a mental disorder did not detract from the popularity or effectiveness of some of our presidents, in keeping with Machiavelli’s observation.

Legal Cases and Narrative Control

One of the landmark but controversial Supreme Court decisions is *Citizens United v. Federal Election Commission*, 558 U.S. 310 (2010). The Supreme Court in a 5-4 split opinion held that the free speech clause of the First Amendment to the Constitution prohibits the U.S. government from limiting independent expenditures for communications by non-profit corporations, for-profit corporations, and other associations (see summary by Cillizza, 2014). The case involved the right to air a film critical of presidential candidate Hillary Clinton; it did not affect the federal ban on *direct* contributions from corporations or unions to candidate campaigns or political parties, but did open the door to gross influence and unprecedented control of the electoral process by monied super PACS.

The 90-page dissenting opinion by Justice Stevens was joined by Justice Ginsburg, Justice Breyer, and Justice Sotomayor (Stevens, 2010). He argued that the Court's ruling "threatens to undermine the integrity of elected institutions across the Nation. The path it has taken to reach its outcome will, I fear, do damage to this institution." They argue that by opening the floodgates to unlimited corporate contributions, for example, through the influential and numerous lobbyists, the majority decision failed the safeguard against the improper use of money to influence the result of an election. In particular, the minority held that the majority failed to recognize the possibility for corruption, bribes, and deception in elections outside legitimate and strict *quid pro quo* exchanges. This has happened before in our political history. The Citizens United ruling opened the door for unlimited election spending by corporations, mostly through super PACS, which support particular candidates for office and are controlled by a small group of very wealthy individuals, based on ideology and safeguarding their assets (Mider, 2016; Hasen, 2012). *The New York Times* observed that 158 wealthy families gave \$250,000 or more, and an additional 200 families gave \$100,000 or more for the 2016 presidential election through super PACS (Confessore, Cohen, & Yourish, 2015).

Super PACS may be becoming more secretive and powerful. Super PACS spent big on the 2018 primary elections for both parties. As of 2018, there were over 2000 super PACS in the United States, with more than \$638 million raised and over \$150 million spent (Center for Responsive Politics, see Yu, 2019, Open Secrets, 2019). There are no reporting requirements for political expenditures as long as the spending is done independently of any candidate, and incomplete disclosure about who is funding the activity is usually provided. Voters may not understand who or what is truly behind many of the slanted narratives in the form of advertised political messages. By sifting through thousands of filled out 990 tax forms, the Center for Responsive Politics has come up with a list of top donors. These include 179 donors from the pharmaceutical companies, Christian and Jewish organizations, Wall Street firms, and others. Of course, these organizations and institutions push their partisan narratives and vested interests. Few entities give money without expecting something in return.

Media and Deception

Structural deception and distortion in the media is not the same as occasional fake news stories by rogue reporters and some newscasters. But fake stories may influence attitudes and behavior on an individual level. Faking good sometimes occurs when negative information is minimized or suppressed. Walter Duranty's articles for the *New York Times* as the Moscow Bureau Chief essentially covered up Soviet Russia's forced starvation of over 1.5 million people in the Ukraine between 1932 and 1933 (Malkin, 2017). He also pushed a false narrative that Russians wanted authoritarian rule and didn't care about personal privation or government sanctioned punishment. Duranty earned a Pulitzer Prize which has never been revoked. NBC in 1993 issued a rare public apology for one of their news crews rigging a GM truck to explode to demonstrate that gas could leak from the fuel tank and cause a dangerous fire. Stephen Glass revealed that he repaid *Rolling Stone* at least \$200,000 for over 40 fabricated stories (Rosin, 2014). Glass, charismatic and with "wonder boy" appeal, invented people, events, and organizations that corresponded with his publisher's pre-existing biases and dark expectations. Jayson Blair in 2003 was

investigated by the *New York Times* for faking numerous news reports, but the scandal that broke his reputation was alleged plagiarism about a family whose son was missing in Iraq. The *New York Times* called his fabulism a “profound betrayal of trust, and a low point” in their 152 year history (Barry, 2003). CBS’s Dan Rather offered a phony story on Bush’s attempts to avoid combat duty in Vietnam by using documents that could not be authenticated. Brian Williams, then-anchorman at NBC was accused in 2015 of lying for years about taking enemy fire while helicoptering in Iraq in 2003 (Farhi, 2015). The list goes on.

For structurally based deception, it is important to understand that the mainstream media outlets—even Twitter and Facebook—are owned by only six mega-corporations (Shah, 2009; Lutz, 2012). These are Comcast, The Walt Disney Company, AT&T, 21st Century Fox, CBS Corporation, and Viacom 3. Efforts of the Federal Communications Commission (FCC) to control the growth and consolidation of the media outlets have not been effective. BBC News, as the world’s largest news organization, announced in 2013 that it had broken into two separate companies with assets divided between News Corp and 21st Century Fox, but was still under the control of 88-year-old, but retiring Rupert Murdoch (BBC, June 28, 2013). Eidelson convincingly argued that the mainstream media employs biased narratives and other forms of deception to primarily serve the economic elite in this country. They have the ability to decide what is to be published, ignored, minimized, or made the subject of media attack.

Does consolidation of media outlets result in better quality of content that is more interchangeable across media outlets, more accessible, and more diverse than heretofore? Research has not established this claim, and some studies indicate that the larger media groups actually produce less local and more biased content (Napoli & Yan, 2007; Obar, 2009). Robert McChesney (2009), an advocate for media reform, gathered the theoretical, normative, and empirical evidence and stated the following: “There is every bit as much regulation by government as before, only now it is more explicitly directed to serve large corporate interests.”

The interactions of present day conflict activities, such as war, economics, politics, and the media have impelled an increasing number of investigators and investigators to fear for the future of our republic and recommend action. Steven Levitsky and Daniel Ziblatt (2018) of Harvard University in *How Democracies Die* showed that the United States has a number of similarities to the democracies in Europe and South America that shifted to a dictatorship. They found that the shift is actually gradual. Political norms erode slowly, and most people are indifferent or are not aware of the shift as daily life goes on much the same as before. Levitsky and Ziblatt (2018) maintain that by electing Trump, this nation is headed for a dictatorship.

Importantly, Levitsky and Ziblatt (2018) point to several conventional ways to address the “exit ramps” on the road to authoritarianism. On an individual basis, they recommend having a continued interest and public commentary, if given the opportunity, regarding negative events or trends in politics, the economy, the media, the military, and other sectors of our society. They point out that the great polarization in America preceded the Trump presidency and is likely to endure beyond it. Another recommendation is attempting to counteract the divisions in our society through leader-level cooperation and compromise. They point out that the non-violent protest movement can be effective and can reverse the direction of trends with the involvement of a very small percentage of the population.

Addressing fake news requires a multidisciplinary effort according to Lazer and colleagues (2018). They opine that:

General trust in the mass media collapsed to historic lows in 2016, especially on the political right, with 51% of Democrats and 14% of Republicans expressing ‘fair amount’ or ‘a great deal’ of trust in mass media as a news source.

They point out how rapidly and extensively information is transmitted on Twitter, Facebook, and email. Research is cited that shows Facebook has as many as 60 million bots, automated accounts impersonating humans, infesting its platform, which were put to effective use by outside parties or organizations in the 2016 U.S. election. They point out that social media are the key conduits for fake news sites, with about 47% of Americans reporting they get their news often or sometimes from Facebook, which is the dominant source.

As with Levitsky and Ziblatt (2018), recommendations by Lazer et al. (2018) to address these manipulations are rather weak. Individuals are advised to fact check and recommend PolitiFact and Snopes, as well as news reports by the *Washington Post* and *The Wall Street Journal*. There was no recommendation regarding addressing significant distortion of news-related images such as “deep fake videos.” These computer-generated fake videos could undermine political candidates, as well as a vast audience of lay persons. There is no effective deterrent at this time. No law as yet regulates deep fakes.

Summary

The primary lesson from this chapter is that deception, whether from slanted narratives or other types of falsity, directly or indirectly supporting collective violence, occurs both between and within the prime sectors of our society—military, political, economic, media, and individuals representing those organizations or institutions. The interlock is shown by resistance to efforts by those who hold counter-narratives. Fundamental change of the kind causing a reversion to a true representative democracy is thus much less likely to occur in the foreseeable future than a society dominated by a small group of persons with a disproportional amount of resources and a pronounced disinclination to redistribute their wealth or share power. Our advice is to focus on things you can change, such as providing a quality forensic practice.

Yet the increasing tendency by organizations and institutions to exploit others through deceptive means and wealth disparity, many of these entities in direct or indirect alliance with American wars and conflicts, should cause real concern to the forensic professional. The quest to detect deception and narrative control in individual cases requires knowledge of the rapid change in our society. Those changes may have affected the individual we are assessing or treating, especially if he or she was involved in our nation’s wars or conflicts. This requires a prudent balancing of seeking accuracy with diligent adherence to ethical mandates. Nevertheless, we must carry on with our talents and abilities in addressing these difficult issues.

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Deception and Involuntary Distortion

3

Introduction

Generally, all information relevant to forensic distortion analysis (FDA) comes from the actor, the one acted upon, and the context in which it occurs. Interdisciplinary and multi-sourced in nature, no discipline or school of thought has cornered the market on deception analysis. This does not mean that all the information must be gathered firsthand by the evaluator. In many cases, the issues surrounding FDA make it impossible for one discipline or individual to answer all the biological, psychological, and social questions in deception analysis. Deception analysis will typically involve at least some collaboration with other sources of data. Some researchers advocate for as many sources that are valid and reliable as possible. The information can be helpful or compromising to the FDA effort.

Challenges can arise when sources of data are inconsistent or contradictory. A common example occurs with psychologists who administer objective tests purportedly addressing similar behavioral dimensions (e.g., malingering), and findings are not comparable or are contradictory (Green, Rosenfeld, Belfi, Rohler, & Pierson, 2012; Rosenfeld, Green, Pivovarova, Dole, & Zapf, 2010). Such discrepant data must be accounted for. It is a mistake and indeed unethical to merely ignore, or attempt to hide, discordant findings. Accounting for discrepancies in data is critical in the courtroom setting where opposing attorneys will rightfully ridicule testimony when discrepancies are not accounted for. In some instances, the most that an expert can acknowledge is that at the moment, the data are discrepant and that an explanation is not currently evident. There is always the caveat that with time and still further effort an explanation will be uncovered. Still another strategy would be a careful groundwork explanation in the experts opening comments regarding the limitations including the ambiguities of psychometric instruments.

The Evaluator's Database

An adequate database for FDA requires information relevant both to the time of the evaluation and to the time of some past event. Thus, at the very least, the examiner must scrutinize two time periods. This is particularly important in light of the tendency of clients to fake differentially depending on the time period involved. Defendants may also be truthful at one point and then deceptive at another. Many criminal offenders, for example, fake bad for the time of the alleged crime only to fake good for the present, such as when the defendant applies for release from hospital incarceration. The database continues to expand until all referral questions are addressed. It is maintained as secure; it should be protected from outside scrutiny, and as necessary, accessed by the examiner again and again ([Figure 3.1](#)). All such activity should be appropriately documented. Given the nature of the adversarial process, whereby court determinations can be questioned and re-questioned by appeal processes, forensic documentation should be maintained intact. In some forensic instances, information

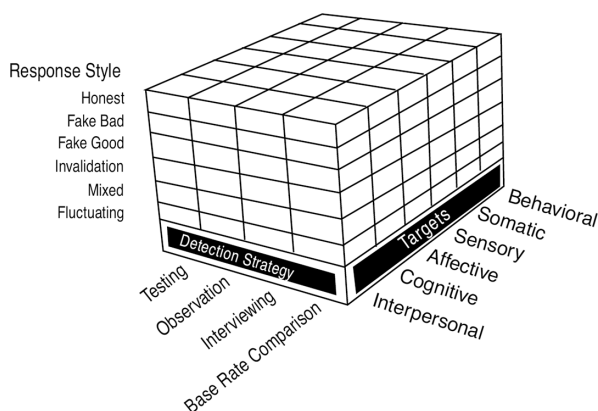


Figure 3.1 Three-dimensional model of distortion analysis.

that is gathered from the post incident time period could be very important. For example, a criminal defendant's behavior in a holding cell or in a pretrial detention facility may be telling when there is a question of competency or criminal responsibility. The authors have had the experience of correctional officers describing, "You know he only acts like that when somebody from the outside is around; the rest of the time he is perfectly all right."

The authors also recall a case situation involving serial incest within a family that was only disclosed after several sisters had been abused by the father as each achieved pubescence. The accused father presented medical reports that he was on disability from a back injury and thereby could not be the offender. The father produced reports documenting a debilitating lower back injury. The father was receiving workers' compensation benefits, he was taking heavy doses of pain medication, and he was attending thrice weekly physical therapy sessions. The father and his attorney contended that his lower back injury would make the alleged incest (i.e., sexual intercourse) impossible and noted that the records documented the father's complaint of his injury negating sexual activity between him and his wife.

During the trial regarding the sexual abuse charges, the victim-daughters presented time-lapse home videos of the father. The videos were originally made by the father to personally monitor his progress while laying a lengthy concrete walk at a family summer home. Prior to the trial and during a clinical/forensic assessment of the youngest victim, the older siblings questioned whether they should introduce the obviously damning videos. The siblings were feeling guilty over "building a case" against their father. We noted to the siblings that the clearly established serial nature of the alleged abuse warranted whatever measures necessary to prevent other youngsters from being abused. Three of the older siblings were married and had children. The videos were proven to be from the time of the father's alleged disability. The father was convicted in the sex abuse matter, and separate fraud charges regarding the disability claim resulted in denial of the claim and an administrative court decision that restitution of claim payments to date were to be made.

As an initial step, the evaluator must gather information. Possible sources include:

1. Interviews of significant/knowledgeable others
2. Behavioral observations of the possible deceiver in individual and group, structured and unstructured, stressful and nonstressful situations
3. Functional analysis of previous (i.e., historical) deception (Figure 3.2)

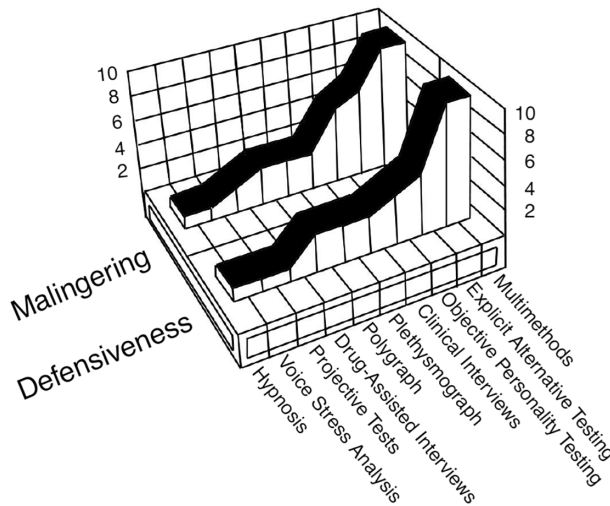


Figure 3.2 Clinical efficacy of deception detection methods.

4. Analysis of validity indicators on psychological testing
5. Analysis of learning curves and expected performance in intellectual and neuro-psychological methods
6. Competence assessment
7. Medical and laboratory analysis
8. Neurological testing using positive emission tomography, computerized tomography, and magnetic resonance imaging technologies
9. Semantic and transcript analysis
10. Body “leakage” (i.e., nonverbal behavior) analysis
11. Autobiographical materials (e.g., diaries and letters)
12. Records produced by others (e.g., military, school and job)
13. “Expunged” records in the state or federal archives
14. Intervention paradigms designed to assess deceit by changing it
15. Base rate analysis for traits of groups in which the deceiver holds membership

We note that evaluators must be careful with database information provided by involved attorneys. Such data may be incomplete or “handpicked” all to bolster the attorney’s position in the matter. Once all the pertinent background data are gathered and assimilated, the analysis then proceeds to a synthesis of the findings. All known factors are considered; weights, if estimable, are given to the various factors. Any limitations as to missing, incomplete, or inaccessible data should be cited and justified as to why it was not accessed. A judgment is rendered in terms of the evaluator’s confidence in the findings and possible degree of accuracy. It is hoped that the synthesis is verifiable and replicable by independent examiners. A good working rule is that deception must be demonstrated and not simply arrived at by ruling out other possibilities.

The evaluator should recognize that “ground truth” for any event, free of camouflage and faking, stands by itself and can be measured. Adults caught up in disputed custody/supervision matters are subject to tremendous feeling states that may induce false statements and false accusations both on a voluntary and involuntary basis. Differentiating between what is voluntary from involuntary distortion makes evaluation of disputed domestic matters extremely difficult.

Murders are an unfortunate reality and can be solved despite attempts by perpetrators to conceal or disguise the event. Auto accidents may cause genuine neurological damage for the plaintiff, who might exaggerate the symptoms in an effort to collect compensation. Neurological traumas can induce psychological symptoms in addition to neurological findings (Quinn, Mayer, Master, & Fann, 2018; Tussey, Arredondo, & Richards, 2017). The reliability of witness testimony is another area of potentially confounding data (Conway, 2013; Eisen, Gabbert, Ying, & Williams, 2017; Gabbert, Hope, Carter, Boon, & Fisher, 2016). The recollections of witnesses can be colored by many variables, including collusion, excitement, anxiety, stress, bias, and naivete. Normal persons have faked their way into hospitals (and residential programs) for various reasons (Humphreys & Ogilvie, 1996; Rosenhan, 1973); and individuals with bona fide mental health conditions have faked their way out of these settings. Some people even fake symptoms in others, for example, in Munchausen by proxy (Yates & Bass, 2017). In all of these situations, a reality exists separate from the faking. This reality is often referred to as “ground truth.”

Deception manifests itself in the ways the deceiver attempts to fool others within a certain context. Ground truth always represents itself as an interaction of the actor, the acted upon, and the context; and deception represents a departure from what actually transpired in this three-entity interaction. Unfortunately for deceivers, deliberate deception requires some planning, some intentionality, expenditure of energy, and exercise of caution. This sequence of action oftentimes reveals our inconsistency. Such deception is uncovered with diligence and method.

Nondeliberate Distortion

Unintentional distortion of words or behavior is commonplace. These factors must be considered before an individual's behaviors are understood and placed into a perspective of deception. Nondeliberate distortion can be analyzed in terms of: (1) the reporting person, (2) the reported event, and (3) evaluation methods. Table 3.1 presents the elements of common nondeliberate distortion factors. The examiner should scan this list routinely in every assessment of deception before conclusions are rendered.

For example, in a recent case that involved the defendant shooting a police officer in the abdomen with a large-caliber pistol, the officer experienced a gross stress reaction. The forensic report reads as follows:

Nondeliberate distortion due to stress and other factors appears to have been operative to a significant degree.

Officer Jones reported, for example, during the instant offense, perceiving his alleged assailant as between 5'7" to 5'10" tall and weighing “far more” than 200 pounds (actually, the perpetrator stood 5'4" and weighed 180 pounds). Temporal events were seen as stretched out in duration. Some relevant details were not recalled, for example, the license plate number of the vehicle allegedly belonging to the defendant or the behavior of the nearby witness during the time of the shooting. This is not surprising. Research has shown that as people switch from normal states into general adaptational syndrome¹ behaviors that may be associated with threats to their lives or well-being, they become less attuned to details because they are more

¹ <https://www.psychologistworld.com/stress/general-adaptation-syndrome>

Table 3.1 Nondeliberate Distortion Factors

1. Reporting Person
a. Stress
b. Physical disability
c. Limited intelligence
d. Inattention
e. Recall problems
f. Psychosis
g. Extreme affective state
2. Reported Event
a. Too brief
b. Physical barriers
c. Weak intensity
d. Distractions
e. Figure-ground merging
f. No stimulus uniqueness
3. Evaluation Errors
a. Incomplete, compromised, or tainted data
b. Unreliable measures
c. Invalid measures
d. Inadequate training
e. Leading questions/procedures
f. Emotional evaluation contexts
g. Assessed event in remote past

concerned with immediate safety needs. Generally, memory for details and sequences can be demonstrated, but recall is less clear than normal. Time estimates are especially vulnerable to exaggeration—in some studies by a factor of two and a half to one (e.g., see Buckhout, 1980; Gabbert et al., 2016; Wang, Paterson, & Kemp, 2014). Size and weight of the defendant are usually overestimated with poor recall of perpetrator's clothing, as with the officer-victim.

Distortion Assessment Guidelines

A dozen guidelines for the evaluation of unintentional distortion should be considered:

1. *Use multimodal methods.* Standardized interviews, observation, review of records, and interviews of significant others can yield valid results; however, the evaluator should not rely on insight alone based upon these traditional sources of information. If psychometric tests are administered, a battery of tests should be utilized. This addresses the issue of single tests vs. a composite battery. Often, evaluators search for a quick sample of faking on a standardized instrument. It is highly unlikely that a single test instrument will cover all parameters of deception. In addition, an inordinate number of false negatives and positives may be generated. The choice of

a battery should typically include measures for possible genuine problems, as well as for deliberate deception. Faking often accompanies nondeliberate distortion, as the evaluation of the defendant who shot the police officer revealed:

Nondeliberate distortion for the defendant may include a chronic condition of cognitive deficiency with or without specific learning disabilities. Specific chronic deficits noted on standardized testing two weeks before the instant offense included: (a) a short attention span, (b) a borderline level of memory for general information, (c) a low average word knowledge (vocabulary) and social (common sense) comprehension, and (d) an inability to cognitively process visual stimuli due to selecting specific visual cues in a maladaptive or inaccurate manner. He was unable to effectively handle selective visual cues. He experienced excessive anxiety, tension, and emotional conflict. Results on another test indicated a limited visual awareness for noting essential details of the human figure and social immaturity, and (e) confusion when listening. The Detroit Tests of Learning Aptitude showed problem areas in auditory sequencing and vocabulary skills.

The Durrell Listening Comprehension results were at the third-grade level. In general, results from the most recent testing are in accord with ten years of previous evaluation results, which suggest significant problems in attention, both visual and auditory stimulus processing and recall, and language comprehension. The defendant admitted lying to the police officer when he stated he had not been drinking beer and in regard to the ownership of the assault weapon. After the shooting, the defendant told bystanders that a nearby witness was the actual perpetrator. He then drove from the scene, covered his car with bushes in a ravine, and attempted to hide in the mountains.

A standard clinical battery—Wechsler Adult Intelligence Scale-Revised, Minnesota Multiphasic Personality Inventory-2, Sentence Completion Test, Bender-Gestalt Visual-Motor Test, and an interview—consistently revealed the likelihood of faking in this case. Tests designed specifically to detect faking can be included in a composite battery of tests in spite of the possibility that the assessee has considerable nondeliberate distortion.

2. *Start with the most valid information first.* Data considered first most influence the evaluator. Premature closure and/or attempts to confirm what the evaluator already believes may lead to incorrect conclusions. The evaluator can consider data with the highest “hit rates” for accuracy first and suspend his or her conclusions until all data (e.g., laboratory data for substance consumption at the time of the relevant event) are analyzed.
3. *Adhere to validated decision rules even when tempted to abandon them for a particular case.* Decision rules are more accurate than clinical judgment. Evaluators should ask why they are tempted to abandon the validated decision rules in the first place. What biasing factors may be operating?
4. *Think base rates.* Knowledge of base rates alerts the evaluator of deception regarding the general chances that certain events will occur. Literature will be cited later to provide base rate information in deception analysis. It would be helpful, for instance, if the evaluator knew that between one third and one half of defendants malingers memory problems in murder cases, with a 25% overall rate of such malingering when pleading insanity. Almost 50% of substances are verbally underreported compared with the results of urinalysis; yet the percentages differ depending on the particular locality and substance involved. On a test of remote memory, people generally do not err on autobiographical questions even if they are brain injured. Further, base rate information is all that may be available to the

evaluator in certain types of crimes, such as serial homicides where the perpetrator is unknown. For some types of unverifiable problems, such as suicide ideation and command hallucinations, base rate information may be the only data available to the evaluator as a springboard for deception analysis.

5. *Do not become overly focused on unique, salient, or unusual case features.* Some evaluators consider the behavior in question to be genuine when a psychopath cries during the rendition of the instant offense. Conversely, evaluators have viewed a rape victim as not being credible because she was a prostitute and a burlesque performer.
6. *Do not fall prey to illusory associations between evaluation responses and supposed faking.* These unfounded associations include the following:
 - a. From the ancient literature, a burned tongue from a hot sword indicates deception.
 - b. Responses to white spaces on the Rorschach test means oppositional tendencies.
 - c. A lucid and reasonable account of the crime under hypnosis spells genuineness.
 - d. The L (Lie) scale on the Minnesota Multiphasic Personality Inventory-2 was developed as a measure of the test taker's credibility.

Evaluators should be wary of meaningless scores on tests measuring deception. Recall that:

- Scores regress toward the mean with extreme scores showing the greatest change upon retesting.
 - Small samples frequently misrepresent population parameters. Unfortunately, most of the specific tests for malingering fall into this category.
 - Scatter can be due to chance and thus not indicate deception or other relevant dimensions.
 - Chance occurrences can be seen as ordered.
 - The year when a test is last normed affects the scoring pattern.
 - Reliance on highly intercorrelated measures is frequent. Evaluators tend to confirm the same problems when they use redundant testing. For example, administration of the Minnesota Multiphasic Personality Inventory-2 and the California Personality Inventory produces the same results in deception analysis.
7. *Caution should be exercised when addressing forensic conclusions from Diagnostic and Statistical Manual (DSM) or International Classification of Diseases (ICD) criteria.* The latest rendition of the DSM series is DSM-V (American Psychiatric Association, 2013). The current version of the ICD is ICD-11 (ICD-11 Beta Draft, 2018). DSM-V has been critiqued because it has maintained a categorical approach to diagnoses and thereby ignores dimensional aspects of diagnosis that are critical to the work of forensic clinicians (Milchman, 2016; Ortigo, Bradley, & Westen, 2010; Simonsen, 2010; Skodol, 2010). The histories of the rationale and relevance of the DSM and the ICD diagnostic systems have been volatile issues from the standpoints of researchers and theoreticians. Furthermore, the evolution of the diagnostic systems has included only token input from forensic clinicians and researchers. In fairness, we acknowledge that the foremost focus of the diagnostic systems is clinical diagnosis and not forensic matters. There is overlap, but two separate domains are involved. [Table 3.2](#) summarizes a number of diagnostic categories that have been called into question by researchers and theoreticians.

Table 3.2 Critiques of DSM-V and ICD-11 Rationale and Criteria

Variable	Citation(s)
Psychiatric rationale in general	Johnson, Barrett, and Sisti (2013); Jones (2012); Kriegler and Bester (2014); Lakeman (2014); McGuire (2015); Paris (2013); Pickersgill (2014); Simonsen (2010)
Forensic implications	Boateng and Schalast (2011); Fekih-Romdhane and Ridha (2017); First (2014); Frances and Halon (2013); Francis (2013); Frierson (2015); Hopwood and Sellbom (2013); Scott (2015); Simpson (2014); Wills and Gold (2014)
Multicultural considerations	Alarcón (2010); Kriegler and Bester (2014)
Panic disorder/agoraphobia	Asmundson, Taylor, and Smits (2014)
Post-traumatic stress disorder	Guina (2016); Hoge et al. (2016)
Mood disorder issues	Fawcett (2014); Parker (2014); Weibel and Bertschy (2016)
Personality traits	Hopwood and Sellbom (2013)
Personality disorders	Meehan and Clarkin (2013); Skodol (2010)
Autism issues	Johnson, Barrett, and Sisti (2013); Siegel (2010)
Pedophilia	Seto et al. (2016)
Substance abuse disorders	Beckson and Tucker (2014); Hasin (2014)
Neurocognitive disorders	Simpson (2014)
Paraphilic disorders	First (2014)
Women's mental health	Steiner (2010)

Contrary to common assumption, no mental condition automatically indicates deception or honesty. Lack of cooperation by a defendant or diagnosis of personality disorders are not necessarily synonymous with deception. Any forensic problem could involve malingering if the assessee was uncooperative or happened to be diagnosed with antisocial personality disorder.

8. *Do not fail to consider factors with ostensibly concealing, deceptive, or uncooperative behavior.* Defendants (as well as clinicians) have bad days. The need to assess over several sittings is important. Frustration or stress unrelated to the evaluation circumstances may be communicated to the assessee, who may evidence countertransference reactions as a result. The evaluator is subject to reporting distorted findings or the evaluator may misread the cause-and-effect of a defendant's response style.
9. *List alternative hypotheses and seek evidence for each.* The evaluator should systematically list both discrepant and confirming data for each conclusion rendered.
10. *Do not fail to limit and operationalize conclusions.* The evaluator should note the confidence in results, as well as indicate the degree of defendant distortion that may have occurred. A feedback mechanism to reassess results should be specified—for example, a re-administration of the same measures when a forensic issue emerges.
11. *Do not overload the referring party or trier of fact with data.* The average working memory holds about 7 bits of information at a time. There may be a decrease in accuracy in reviewers after that point. The writers try to give jurors no more than a few salient critical points in their attempts to synthesize their overall presentation in court.

12. *Make a deliberate effort to get feedback.* At a bare minimum, cross-validating information can validate findings on deception. The forensic professional can learn from trial of fact outcome regarding expert testimony. Attorneys and jurors can be questioned following civil or criminal trial proceedings. Normative data regarding distortion and deception for one's area, practice, or circumstances should be systematically collected. Variations related to juror age, sex, educational levels, and ethnic differences should be noted.

Synthesis

Generally, nondeliberate distortion needs to be ruled out or accounted for before deception is considered. Ground truth may be misrepresented by both nondeliberate and deliberate deception. The issues in separating deliberate from nondeliberate distortion are important for both the individual and society. In criminal trials, jurors appear less willing to exculpate and judges may be harsher in sentencing when the defendant has been caught at deception. In civil cases, awards may be reduced (or eliminated) for behavior seen as deceptive.

Evaluators should know the evolving behavioral science literature on deception to reduce their own nondeliberate distortion. This exercise of caution will serve to keep one humble. The literature on deception is incomplete and fragmentary up to 1990. Since 1990, and continuing to the present, there has been an unending flow of empirical investigations regarding deception and malingering. Our ability to detect deception, however, still remains rather rudimentary, and that finding remains the central theme of this third edition, as it was in the first and second editions. Even more discerning is that there is continued use of invalid or marginally acceptable techniques being widely utilized to establish that deception has occurred. These procedures include the traditional clinical interview, forensic hypnosis, hypnotic-assisted interviews, and some arousal methods, such as the voice stress analyzer and penile plethysmography. These methods are not held in high esteem in this book mainly because their scientific validity is still lacking, inconsistent, or disappointing.

The purpose of this chapter will be well served if the evaluator of deception follows a few simple guidelines as presented. Ground truth forensics is the Holy Grail that forensic evaluators pursue. Ground truth is obscured by distortion, both intentional and unintentional. In a post hoc analysis of deception, unintentional distortion must be ruled out or accounted for, as it alone may explain the evaluation findings. The forensic evaluator should routinely check for factors and events associated with nondeliberate distortion and report these findings in consultation or trial testimony. Failure to do so renders conclusions regarding intentional deception meaningless.

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The Applied FDA-5 Model

4

Introduction

Forensic distortion analysis (FDA-5) mandates a scrutiny of the actor, yourself as evaluator, and the context in which the distortion occurs. To comment upon possible faking by a murderer, you must be intimately familiar with the homicide. To state that cerebral insult stems from a car accident, you should know how the person typically behaved prior to the alleged trauma. To claim that a rehabilitation client is deliberately sabotaging therapy due to secondary motives, you must be aware of your own countertransference, an insidious and often overlooked source of self-deception.

This chapter focuses further on the FDA-5 model by discussing: (a) the symptoms targeted for deception, which may reflect goal formulation and perhaps planning on the part of the faker, (b) behavioral output in the form of typical styles of deceptive responding, and (c) the means used to understand and measure these response patterns. [Figure 3.1](#) presents these aspects of deception analysis.

Target Symptoms

As a rule, fakers choose target symptoms in accordance with the direction of their vested interests. People choose what they think will work in order to accomplish their goals. A great deal of knowledge regarding psychological and medical conditions has been publicized in the media. Thus, actual neuropsychological symptoms may be selected for bogus head trauma. Amnesia may be chosen when a gap in memory is self-serving in a violent crime. Targets are not to be confused with goals, which may include anything from avoiding prison to obtaining a monetary reward. Targets are short term in nature; and goals represent the ultimate objective of the faker.

Selecting a target means that the faker makes assumptions about both ground truth and distortion. Psychosis cannot be faked without having an idea of how a psychotic person behaves. This gives the evaluator an advantage by putting the onus for performing on the deceiver.

Targets can change as a function of many factors, such as opportunity, fatigue, and evaluator behavior. The goal, however, usually remains the same (e.g., wanting compensation for a back injury). Some targets are unverifiable, particularly suicidal ideation, pain, hearing voices, and trauma-related nightmares. Finally, targets are often based on partially real deficits and represent an exaggeration of deficits rather than pure fabrication. The best lie is the partial truth.

A simple method for listing cognitive targets is presented in [Table 4.1](#). All the major dimensions of deception in terms of targets are covered. The “behavioral” category includes verbal or motor acts as targets. “Somatic or psychosomatic” targets and symptoms include a broadband category of physical signs. “Sensation” refers to faked deficits in vision, hearing, smell, taste, touch, temperature, pressure, balance, and pain. “Affect” can involve autonomic and/or emotional events that may be distorted. “Cognitive” problems include

Table 4.1 Targets of Deception

Category	Examples
Behavioral	
Motor	Slowness/agitation
Verbal	Mutism; aphonia
Somatic/psychosomatic	
Central nervous system	Epileptic seizures; paralysis
Other systems	Factitious arthritis; muscle weakness
Sensation	
Visual	Visual hallucinations; partial blindness
Auditory	Hearing voices; deafness
Tactile	Intense or persisting pain
Taste	Gustatory insensitivity
Smell	Olfactory hallucinations; loss of smell
Imagery	
Perception	Flashbacks; illusions
Rapid eye movement (REM) sleep	Nightmares; night terrors
Affect	
Autonomic	Anxiety; rage
Emotional	Lability; major depression
Cognitive	
Attention	Stupor; unconsciousness
Memory	Amnesia; recall problems
Language	Aphasia; word salad
Thinking	Schizophrenia; dementia
Interpersonal	
Social	Imposture; Munchausen by proxy

deficits in attention, memory, language, and thinking. “Interpersonal” deficits involve faking when reporting upon the interaction with others. [Table 4.1](#) presents clinical examples of target symptoms.

In sum, targets involve any short-term objectives, which, when reached, are in the direction of the faker’s stake. The targets: (a) may change over time, during the evaluation, and/or subsequent to the evaluation; (b) may be specific or wide in focus (e.g., tics or dementia); (c) are based upon cognitive schemes, experience, sophistication, and available disguises; (d) must be differentiated from nondeceptive behaviors; and (e) can be translated into discrete response styles which can be measured.

Response Styles of Deceptive Behavior

Response styles are the second part of the FDA model. The heart of FDA is in the analysis of response styles. Only through behavior can we infer deception. Response styles are connected to targets in the nature of cause and effect even though targets can be quickly conceived of or yield poor (i.e., detectable) patterns of behavior.

The basic response styles for deception are presented in [Table 4.2](#).

Table 4.2 Basic Response Styles

1. Honest	Attempts to be accurate within own frame of reference; may be show on deliberate distortion
2. Faking bad	Exaggeration or fabrication of symptoms and negative features; denial and/or minimization of positive traits/events; misattribution of deficit to false cause
3. Faking good	Minimization and/or denial of symptoms and behaviors; exaggeration or fabrication of positive points; misattribution of blame to outside source
4. Invalidation	Attempts to render the evaluation meaningless
5. Mixed	Combination of styles within same evaluation period
6. Fluctuating	Change of style within or between evaluation period(s)

Honest Responding

Despite the focus of this book, most individuals have built-in prohibitions against deliberate deception. In forensic intervention settings, many clients are distressed psychologically or physically and just want to be well again. Returning to work or a meaningful lifestyle is a powerful reinforcer; most clients believe that nondeceptive behavior is proper and essential in order to achieve these goals.

In the criminal arena, defendants, witnesses, and significant others are reminded of their moral duty, which is reinforced by legal sanction, for truth telling. Possible charges relating to perjury and hindering prosecution add incentive to tell the truth. For defendants, malingering is strongly suspected in about 20% of the cases (Rogers, 1988). This means that the vast majority of defendants are not engaging in blatant deception, even when their liberty is at stake.

In the civil arena, the most notorious of settings with regard to eliciting deception for monetary gain, there may be a fear of being detected for one's fakery. Depositions are taken and oaths are administered in a judicial attempt to reduce deception. For some situations, such as workers' compensation, a theoretical question emerges as to why persons would fake in order to obtain a fraction of their normal pay.

Honest responding does not equal cooperation with the evaluator. Noncooperation can occur for a variety of reasons—from dislike of the evaluator to the circumstances of the setting. Witnesses and significant others are often only minimally cooperative. They may claim that they are too busy, make it clear that they do not want to become involved, or may be biased in favor of or against the accused.

Nondeliberate distortion does occur in the presence of truth telling. The brain damaged or psychotic subject may give what he or she believes to be an accurate portrayal of events. Recall that nondeliberate distortion caused by stress may occur in the majority of people (Cooke, 1980).

The following case illustrates honest responding for an individual accused of attempting to sexually assault a 25-year-old schoolteacher:

Mr. Tanaka displayed few evidences of deliberate deception as suggested by (a) the congruence between pathological test signs and clinical behavior (e.g., both showing perseveration, bizarre statements); (b) acceptable range of responses on measures helpful in detecting faking bad and faking good (e.g., MMPI-2 and forced choice testing); (c) expected learning deficits with increased task difficulty (e.g., on neuropsychological

testing); (d) similarity of scores on different subtests or test items of equal difficulty (e.g., digits forward and backward obtained on WAIS-IV and Wechsler Memory Scale); (e) congruence of volunteered information with the physical evidence and victim and witness statements; (f) concordance of mental condition at the time of assessment with crime behavior; and (g) volunteering of much self-incriminating data.

There were suggestions of considerable nondeliberate distortion for both the time of the evaluation and the alleged offenses. Immediate, short-term, and long-term recall showed contamination with psychotic features when compared to cross-validating data. Concrete answers were given to many queries with prompting needed to extract responses, which were later determined to be correct. His sense of time was substantially impaired compared to cross-validating data. He further displayed an inability to see his mistakes during testing, corresponding to historical behavior, which showed poor judgment at home and on the job. His WAIS-R score revealed borderline intelligence with deficits in all areas of intellectual functioning, including vocabulary, computational, informational, and verbal associational skills.

In general, for both the time of the evaluation and the instant offenses, the accused showed little deliberate, but considerable nondeliberate, and distortion. Cross-validation with other database sources was necessary to determine credibility parameters.

Faking Bad

Faking bad, also known as malingering, deceit, prevarication, false imputation, and simulation, always involves fabrication of nonexistent problems or the exaggeration of actual pathology. The denial or minimization of good points in an attempt to look worse than one actually is may also occur. As with any response style, malingering can coexist with genuine deficits. The writers' experience is that malingering associated with real problems should alert the evaluator that we are not dealing with an either-or situation.

Many faking bad patterns are possible. [Table 4.3](#) presents a dozen of the more common faking bad patterns encountered in clinical-forensic evaluation.

Frequency data are lacking for most of these faking subtypes. Data on faked recall problems using a forced choice format, however, suggest that many of the subtypes are common among successful fakers (Hall & Shooter, 1989; Shooter & Hall, 1990). These include randomizing (28%), perseveration (19%), fabrication (16%), fractionalizing (9%), and disengagement (9%). For unsuccessful fakers, the same response subtypes emerged, but in a different order or magnitude. Results showed that randomizing (9%), perseveration (5%), fabrication (41%), fractionalizing (20%), and disengagement (13%) were clearly detectable as response strategies. For both successful and unsuccessful fakers, the full gamut of the subtypes presented on [Table 4.3](#) were represented.

Faking Good

Also known as defensiveness and dissimulation, faking good is the exact opposite of faking bad. Faking good always involves denial or minimization of problems in the direction of one's vested interests. Fabricating and exaggerating positive points are also frequent. Second to honest responding, faking good is probably the most common distortion strategy

Table 4.3 Faking Bad Response Styles

Style	Behavioral Strategy	Examples
1. Verbal fabrication	Claims a nonexistent problem	"I have ringing in my right ear."
2. Verbal exaggeration	Amplifies real problem	"I'm more forgetful than usual."
3. Verbal denial	Disclaims an ability	"I can't smell anything."
4. Verbal minimizing	Downplays an ability	"I can walk only one block."
5. Misattribution	States deficit due to false cause rather than true etiology	Claiming developmental learning disability caused by a vehicular accident
6. Behavioral fractionalizing	Shows crudely estimated fraction of ability	Hand grip scores only half of ability
7. Behavioral approximating	Gets a close, but not exact, answer	"6 + 6 = 13; 7 × 3 = 22"
8. Behavioral infrequency	Sprinkles errors throughout performance on graduated scale	Errors on WAIS-R Comp, and vocabulary on initial items
9. Behavioral disengagement	Shows confusion and frustration—may give up	Claims total inability during blindfolded period of the tactile performance test
10. Impulsivity	Answering quickly, presents first thing on mind	Poor on arithmetic and block design compared to untimed performance
11. Perseveration	Persists with one response mode regardless of feedback	Alternates errors on Wisconsin Card Sorting Test (WCST) or explicit alternative testing
12. Randomizing	No consistent pattern of errors	Speech perception test errors due to deliberate inattention

utilized. Indeed, most people minimize and deny or exaggerate their positive points to adapt to the social environment. Otherwise, most marriages, businesses, and other relationships involving people would not last.

In faking good, the deceiver cannot do better than his or her true ability. Thus, faking good cannot occur on intelligence, neuropsychological, and other ability tests because clients cannot do better than their true best performance. The exception to this rule is taking performance-enhancing drugs, such as anabolic steroids or stimulants, in order to increase vigilance and motor speed. Some substances, such as anti-anxiety drugs, are occasionally used to cover anxiety during an interview and to project an image of confidence to the evaluator.

It is possible to fake good on personality measures and in interviews. One may affirm a fraction of the pathological items on the MMPI or engage in self-praise during an interview. In general, the five most commonly used methods of faking good are:

1. Denial "I didn't drink alcohol."
"I don't have a memory problem."
2. Minimizing "I snort coke only on Wednesday nights."
"I do poorly on tests like this."
3. Fabrication "I have run a mile in less than four minutes."
"I have a parasensory ability which allows me to discern the truth."
4. Exaggeration "Nobody cooks as good as I."
"I'm considered a virtuous person."
5. Misattribution "I beat my wife because I was grieving over my friend's death."

Faking good is difficult to demonstrate when it involves concealing the real. It places the onus on the evaluator to demonstrate the existence of that which is denied or minimized. Cross-validation is essential in these cases. The following instance illustrates defensiveness in a case involving a 26-year-old defendant accused of savagely beating his ex-girlfriend into a coma.

During the second interview on October 9, 1990, the defendant blamed the victim, acquaintances of the victim, his own attorney, and the court for slanting the “truth” and refusing to allow him to tell the whole story. He declined to take psychological tests, citing again issues of trust. Intellectually bright, verbal, and persistent in his efforts to dominate the interview, this brown-haired, brown-eyed male utilized cognitive strategies of minimization, denial, and withholding of information to convey a picture that this whole affair (i.e., the instant offense and events leading up to it) was a romantic feud that should best be simply forgotten by the court so he can go on with his life.

In regard to minimization and denial, examples include stating that: (a) he hit the victim only once, consisting of an open-handed slap with his left hand, during the February 3, 1990 assault, which caused brain damage to the victim, despite statements by two witnesses to the contrary; (b) he has never “attacked” the victim, only “hit” her on occasion. He affirmed the December 1988 assault, but stated that he hit the victim in the ribs two to three times at that time because she allegedly told him she had been sexually unfaithful with a previous boyfriend; (c) he placed an ice pick through a jacket on the victim’s door, stating to the examiner that he was only returning the jacket and that no threat was intended. In retrospect, he can now see how the victim reacted with fright to this and other behaviors of his; (d) he threw a rock through the victim’s window in October 1989 only to “wake her up,” not to frighten her; (e) he never intended to pull the victim’s hair out on October 6, 1989, and that he grabbed her head to get her attention; earlier in the day, the victim had reportedly walked into his apartment and destroyed two or three paintings with an umbrella. Even though he was angry at the victim, the hair-pulling allegedly occurred because the victim pushed his hand away, thus in essence pulling her own hair out; (f) he has never had a really serious drug problem; however, he stated later that while in California, he injected heroin 15–20 times, smoked it many other times, and committed crimes with eventual incarceration for those crimes which were related to drug procurement activities. Records from California revealed that his daily heroin addiction cost was about \$200.

Many other examples exist. Suffice it to say that the defendant may not be a credible source of information due to distortion methods of: (a) minimization, (b) denial, (c) projection of blame, and (d) withholding information in order to project a positive picture of himself. He denied feelings of anger toward the victim. Finally, he stated that he did not want his relatives contacted in connection with this case.

Invalidation

The evaluator may not know the reasons for a client invalidating the evaluation by some tactic(s), thus rendering it meaningless. Conclusions cannot be reached when this occurs. Examples include: (a) not reporting for the evaluation, (b) reporting for the evaluation, but having to leave after one-half hour to avoid being fired from work or because of a sick spouse, (c) showing up substance-intoxicated, (d) becoming nauseous and sick in the middle of an interview, or (e) leaving too many unanswered items on the MMPI. The evaluator

must then perform the evaluation at another time or change data collection strategies in order to counter attempts at invalidation.

Mixed Response Styles

Mixed response styles within one evaluation involve faking good and faking bad. How is it possible to have both malingering and defensiveness within one evaluation? The person may be extraordinarily sensitive about sexual behavior, for example, thinking (wrongly, of course) that this is none of the evaluator's business, yet attempting at the same time to exaggerate pain reactions in order to reap a financial reward in a civil suit. Clinically, they may say, "I am here to assess my pain, not my lifestyle." On the MMPI, over-endorsed depression and other traits associated with pain may be seen, but anger, distrust, and suspicion may be downplayed.

Fluctuating Response Styles

Suggestions are beginning to emerge that changes in response strategies occur within the same evaluation period. A common one, found in testing for feigned amnesia, is faking bad at the beginning of the evaluation and showing honest responding, as fatigue sets in or as clients begin to believe that they have given themselves away. Honesty in the beginning of the interview, with faking bad as the evaluation progresses, is occasionally seen. This is a sign that the client may think the examiner can be duped.

A second fluctuating style involves presenting different styles during different time periods. The defendant may claim psychosis at the time of the instant offense in order to escape criminal liability, yet deny problems for the present in order to obtain release from hospitalization. A civil litigant may fake good concerning problems before an accident but fake bad for the present in order to assert damages. This suggests that evaluation procedures must be geared toward both the past and the present.

In general, there is no escape from considering possible deceptive responses, for it is only through behavior that faking can be understood and measured. Fakers select targets that serve overriding goals in the direction of their interest. By acting to achieve those targets, fakers create response patterns, which can be scrutinized by the evaluator.

Detection Strategies

The last part of the FDA model deals with detection methods. The overall strategy of the evaluation is to gather information about the actor, the one acted upon, and the context of deception, all within a systematic, comprehensive approach, which is then tailored to the assessment needs of the individual examined.

For example, in testing for claimed cerebral deficits because of an auto accident involving the loss of specific sensory skills, such as numbness and agnosia, the evaluator would first use a neuropsychological battery. Specific claimed problems not measured on the battery, such as loss of smell and "frontal" problems, would then be tested.

Nontesting approaches that yield high reliability can be utilized. Structured interviews and interviews of significant/knowledgeable others for cross-validation of claimed deficits, for example, are very helpful. Observation, to determine whether or not claimed deficits

correspond to actual behavior, may be utilized. The forensic community holds inpatient hospitalization for observation of deceptive response patterns in high regard. This method builds in multiple measures over time in order to evaluate the assessee. [Figure 3.2](#) presents the authors' opinions of the clinical efficacy of selected methods for detecting deception.

In regard to detection methods, the evaluator should keep in mind that no one method is 100% accurate; and they should be used in combination with one another. The examiner should use methods that are comprehensive, standardized, and flexible within the evaluation. Methods must eventually be geared specifically toward symptoms/targets. As discussed, they are operative for at least two periods of time. Few referral sources are particularly interested in deception only at the time of the evaluation. Lastly, built-in feedback and replication features are necessary to assess the effectiveness of the methods.

Synthesis

In sum, the FDA model may assist the evaluator in focusing on the possible deceiver's target symptoms and response patterns. Detection methods can be broad-banded in order to illuminate targets and responses, and to provide testable hypotheses for further inquiry. Evaluation for deception must be general in the beginning and tailored to the individual and specific questions as they arise.

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Introduction

The traditional training of most mental health clinicians usually does not imbue the sense of caution and level of analytic inquiry that is necessary in forensic assessments. The effective Forensic Distortion Analysis-5 (FDA-5) attitude is not skepticism, mistrust, or antagonism. Any of these clinician attitudes will inevitably convey to interviewees and result in distorted and biased findings. Such attitudes will also become predictable fodder for any later cross-examination designed to impeach the evaluator's credibility. The proper approach is one of constant, but respectful wariness for the possibility of deliberate and nondeliberate distortion. At the same time, there must be a vigilant effort to solicit the most accurate data possible. The evaluators must always respect the rights of interviewees to conduct themselves as they deem necessary during examinations. The forensic clinician is first a data collector; it is not his/her responsibility to conduct psychotherapy, to gather evidentiary information, or to correct the ills of the world (Greenberg & Shuman, 1997). Armed with the proper attitude, effective FDA requires proper preparation for the evaluation, conducting a proper evaluation, and proper follow-up after the evaluation. It is very important to understand that the forensic evaluator's work product in most instances is the written report. Learning how to write professional, quality reports is a critical aspect of the forensic clinicians training and ultimate working expertise.

The importance of careful and comprehensive preparation in any forensic assessment cannot be adequately stressed. By definition, every clinical/forensic assessment entails the probability of distortion, both deliberate and nondeliberate, as well as a combination of the two. The vigilant clinician will be best prepared to detect distortion, but of course the effort is never foolproof. Preparation must involve a thorough review of all available background data and materials. If critical background information is known to be missing, then every effort should be made to access it. The final report should always have a listing of all materials reviewed, persons interviewed, data examined, etc. Likewise, if there is known to be information that could not be accessed, that should also be noted. The effort is to document the clinician's database as accurately as possible.

The time to begin to prepare for standing up to cross-examination begins at the point of referral. The adversarial cross-examination means that the opposing attorney will make every possible effort to impeach the expert's testimony. The authors have had the experience of a comprehensive evaluation being cast in a dubious light with the opposing attorney's proffer that a prior report was not incorporated into the assessment. Another circumstance is not being able to access prior records because the defense counsel advises the client not to provide consent. In this instance, the report should cite the reason for the inability to access material and the trier of fact will then have to make a determination as to how to proceed.

Not having accurate or complete background materials is just one area in which the expert's testimony is subject to impeachment. Citing all background materials that were

relied upon, as well as those materials that were inaccessible (and why they were inaccessible) is the safest approach for the potential expert witness. The primary reason for the thorough background review, however, is to prepare the clinician for FDA.

A set of evaluation process guidelines by Paulsen and Hall (1991) is recommended and presented in [Table 5.1](#).

Table 5.1 Process Factors in Deception Analysis

Suggestion	Rationale
Prior to the Evaluation	
1. Remain vigilant to possibility of assessee distortion	Knowledge of high-risk groups and distortion literature is essential
2. Assess examiner distortion, including that which is unintended	Examiner distortion is common (e.g., wrong assumptions and bias)
3. Maintain independence from referral party	Closeness with referral party suggests bias
4. Gather source data relevant to subject/incident	Objective data must be reviewed to ask incident-specific questions
5. Prepare a standardized distortion battery	There is no substitute for battery evaluation completeness
6. Schedule the evaluation	Generally, distortion increases with time since the incident
During the Evaluation	
7. Orient client to evaluation process and disposition	Written and signed orientation forms are recommended to refute later claims of evaluation bias
8. Tape the evaluation, with knowledge of client	This assists evaluator's recall and is the basis for possible replication
9. Conduct an open-ended interview	Broad questions force assessee to work out details
10. Eventually focus on critical distortion issues	Binary-type questions force assessee to take a stand
11. Sprinkle questions with known answers throughout interview	Known deviation from "ground truth" is helpful to assess distortion style
12. Use multiple assessment methods	Validity and examiner credibility will be increased
After the Evaluation	
13. Modify the evaluation as appropriate	Flexibility of examiner response may increase database (e.g., quickly) presented questions
14. Confront client with suggestions of distortion	Providing opportunity to change story may resolve discrepancies
15. Evaluate validity of each data source	Cross-validating sources are subject to distortion
16. Assess nondeliberate distortion of client	Rule out unintentional distortion before ruling in deception
17. Rule in deliberate distortion	Deception should be explicitly demonstrated
18. Differentiate between incident and evaluation distortion	Distortion always refers to two different points in time
19. Identify distortion along different points of time subsequent to incident	Fluctuating response styles suggest deception
20. Report incomplete or invalid data	Referral source needs to know if complete database is utilized

(Continued)

Table 5.1 (Continued) Process Factors in Deception Analysis

Suggestion	Rationale
21. Determine whether uncovered distortion is relevant to referral questions	Genuine impairments are often associated with deception
22. Reflect the decision process in the report	How the examiner arrived at conclusions is central to distortion
23. Describe adequacy of process	Explicitly stating that distortion data warrant the conclusions is helpful
24. Delimit scope of distortion-related conclusions	Degree of certainty and temporal limitations should be specified
25. Make recommendations for case disposition	Further evaluation may be indicated (e.g., inpatient observation)
26. Identify a feedback mechanism	Later retesting for distortion is a frequent issue
27. Retain all data regarding distortion	Baseline material may be used for reanalysis

Before the Evaluation

The following case, which won a \$500,000 award for the plaintiff, illustrates errors on the part of the defendant, the State of Hawaii Health Department, which could have been avoided with proper preparation before an evaluation of a patient's readiness for discharge.

A 28-year-old white male paranoid schizophrenic began hallucinating, hearing the voice of a spirit urging him to hurt people, particularly his family members who were responsible for his involuntary hospitalization. There was a history of repeated assaults on family members with threats to kill. After two weeks, the patient was partially stabilized on antipsychotic medication. However, episodic outbursts of rage, shown by head banging and chair throwing, continued. The patient was overheard saying that he belonged in the hospital and that, if released, he would physically hurt his family. For the next three days, he went to great lengths to deny and minimize symptoms, finally stating that he had "learned his lesson" and was ready to return home.

The psychiatrist noted that the patient had "achieved insight" and made arrangements for discharge, which unfortunately did not include informing the patient's parents of his return to the community. The patient went to his family's home unannounced, refused to take his medication, and quickly deteriorated. One week later, he stabbed his mother in the heart with a 12-inch kitchen knife, lacerated his niece and nephew on the legs and arms, and plunged the knife into his sister's torso, leaving the blade imbedded.

The forensic report submitted in this case concluded with the following:

In sum, a prediction of violent behavior with a decision to continue preventive hospitalization was expected, required, and approved behavior by the authorities. There was no way for the State Hospital to escape the obligation of assessing the risk of violence prior to the patient's release from the hospital. Dr. Trevane should have been aware of a multitude of signals from the patient and from other sources that the patient posed a substantial risk of violence at the time of release. Dr. Trevane further ignored the extant professional literature on the subject, disregarded his own observations in deciding to release the patient, and used factors in his decision-making process that bore little, if any, relationship to whether future violence would occur.

The staff did not have in their possession, or were otherwise not aware of, the contents of retrievable documentation regarding the patient's past violence and thus completely failed to uncover a history of dangerousness, escapes from previous inpatient psychiatric programs, noncompliance in taking medication, and other critical factors that must be considered in predicting dangerousness.

They believed the patient when presented with his falsehoods and did not believe or ignored him when he stated that he should not return to his family upon release. The staff should have known that he was a substantial risk of danger to his family in particular, that the opportunity to inflict violence through the use of a knife was available and preceded in both the patient's recent and remote history, and that consideration of inhibitory factors such as preparing or even notifying the family of his release and insuring treatment compliance was important in preventing and/or controlling violence. The acute and chronic physical and mental trauma suffered by the victims were created by the patient's violence of May 15, 2015 in the nature of cause and effect.

In this case, a number of factors were neglected. First, hospital staff should have been alerted to the possibility of defensiveness, particularly after the patient changed his mind and stated that he wanted to go home. Florid psychosis usually does not disappear in several days; rather it dissipates gradually. The basal history of violence was neglected, and there was strong evidence that the staff was unaware of the patient's previous dangerousness and/or future anticipated triggers of violence. No psychometric testing was conducted. Ward notes by nursing and social work staff did not appear to have been read by program planners. In sum, very basic errors in evaluating the patient's claim of readiness for release were made through inadequate preparation before the formal evaluation for release.

During the Evaluation

One of the factors to be dealt with during an evaluation is the occurrence of disruptions, distractions, and sabotage of the evaluation process.

A 38-year-old white male defendant reported for the sanity evaluation with his (loud) wife, a neighbor, and a friend, despite specific instructions from the writer to come alone.

A review of court records had revealed a lengthy criminal past with known attempts to manipulate evaluators in the direction of leniency.

The solution to this problem involved psychometrically testing the accused while his significant others were being interviewed individually. They were also given instructions to write down what they knew of the accused's history and the instant offense involving an alleged assault on the wife. After three hours of evaluation and the collection of much forensic data, the accused and his significant others were released from evaluation.

In matters where police authorities have been involved, the police reports can be very important sources of information. Oftentimes police reports provide the only source of information as to the accused's psychological state at the time of a critical incident. Clinicians must bear in mind that the police reports are investigation documents, and police are trained to write reports that will support anticipated prosecution.

Significant others are often given checklists to complete in addition to their other tasks. At this time, these include the Mooney Problem Check List, Post-Traumatic Stress

Disorder Checklists, and a structured history form, all regarding the accused. Basic background information is collected about the party supplying the information in order to assess his or her credibility. Orientation procedures, of course, are followed in gleaning information from significant others in order to counteract later claims of examiner distortion. The evaluator is advised to outline clearly the evaluator's role and objectives, as well as the limits of confidentiality. If it becomes apparent during an assessment that the subject has lost sight of the evaluator's role, the subject should be reminded. A common problem is interviewees being lulled by the rapport of the assessment process and making incriminating statements or offering personal opinions that they would not make if they recalled, at the moment, the objective, impartial role of the forensic clinician. If interviewees complain later, as they predictably will, the evaluator is portrayed as having a malevolent interest. Evaluators must treat all witnesses with the same rights and privileges as the defendant, including the right to cease questioning.

The evaluation should start on a general level in order to tap into the assessee's stream of consciousness and style of thinking. Police commonly interrupt the interrogation of the accused before obtaining broad-banded information, thus losing the chance to observe the arrestee mentally working out details to the questions. Sometime during the initial part of the evaluation, the first in a pair of parallel test forms can be administered, followed by the second test toward the end of the session. These parallel test procedures include repeated measures of receptive vocabulary (e.g., Peabody Picture Vocabulary Test), visual recall (e.g., California Memory Test), and auditory discrimination (e.g., Auditory Discrimination Test), or other tests if the skills tapped by those tests are relevant to the issue of deception in a particular case. For example, the Shipley Institute of Living Scale or the Ravens Progressive Matrices can be administered to the accused in a sanity screening. This provides for parallel administration later or for comparison with WAIS-R scores. Regression equations permit the prediction of WAIS-R IQ scores from both the Shipley and the Ravens tests.

Flexibility of response is especially important. One client refused to operate the hand dynamometer, claiming that it was a test for "physical therapy," but he agreed to do finger tapping. Although these tests are not sensitive to the same parts of the cortical motor system, both yield an indication of motor ability. Some individuals refuse a recommended CAT scan, but are agreeable to the MRI, which actually shows more details in terms of cerebral encephalopathy.

The authors start with a structured interview format in order to lower the threat. In sanity evaluations, the accused is oriented to the task and is asked about identifying information, questioned on fitness to proceed, and is then asked to describe the day of the instant offense in detailed sequence.¹ The instant offense is probed again to fill in missing time periods, behaviors, and other important details. It is during this stage of the process that data from the background information can be of immense value to the clinician. Posing hypotheticals, challenging the assessee's account, and confrontation can be utilized to allow the assessee a chance to resolve discrepancies. The evaluator should understand that the purpose of confrontation is to obtain more information, not to present an overview

¹ As pertinent to the situation (e.g., in court-ordered assessments), the defendant is always reminded of his or her Miranda rights. That is, the assessment is not confidential, and a report will be forwarded to the requesting judicial authority; the defendant has the right to remain silent, the right to have legal counsel provided if they can't afford to retain an attorney, and the right to have their attorney present.

Table 5.2 Confrontation during Analysis for Deception

1. Assessor summarizes evaluation behaviors	“Are you saying that you do not recall anything about what happened on that night?”
2. Eliciting more complete information	“Tell me more about the reasons for your earlier [psychiatric] hospitalization.”
3. Giving a chance to change self-report	“Looking back on what you said about the voices, do you obey them all the time? When don’t you do what they say?”
4. Giving a chance to resolve discrepancies	“I’m wondering why you don’t remember what you said yesterday about the accident.”
5. Allowing client to admit to distortion	“If your ex-wife [boss, victim, etc.] were to describe your truthfulness, what would she [or he] say and why?”

of evaluation findings to the defendant. Another caution is not to employ confrontation in a derogatory or oppositional manner, such that the defendant complains, thereby setting the stage for dismissal or impeachment of the evaluation. [Table 5.2](#) presents five methods of confrontation and examples of each.

In sum, it is acceptable to ask the defendant to resolve discrepancies between the following:

1. What is written versus what is stated orally.
2. What was said or done earlier in evaluation versus what is being said or done now.

After the Evaluation

A retrospective check for completeness is essential before the assessee is dismissed. A common problem by examiners is failure to recognize that data about deception must be relevant to time periods other than that of the evaluation.

Many forensic evaluations reviewed by the writers for various purposes have large amounts of data on distortion for the time of the evaluation, but very little on that which connects to the critical event in question. In some instances, information about the defendant’s behavior following the critical incident is essential. This is illustrated in the following case example involving an adolescent sexual offender.

Ivan was 17 years old and a senior in high school; he was identified as talented and gifted in the first two years of high school. During the summer between his sophomore and junior years, he became heavily involved with cannabis and other hallucinogens. He also became involved with girls, something he had previously shunned. He solicited girls usually a year or two younger than himself with a punk rock image and free cannabis. A former girlfriend introduced Ivan to two of her girlfriends, both of who had no prior experience with drugs or sex.

Ivan and the three girls became a foursome and gradually they began to engage in hallucinogen induced weekend sexual orgies with Ivan being the focus of the girl’s attentions. As with most adolescent dating, jealousy triangles emerged among the three girls and Ivan delighted in instigating bickering and actual physical altercations. Ivan then introduced bondage behavior into the sexual activities. One weekend Ivan took the youngest of the three girls for an evening drive. In addition to cannabis, Ivan brought alcohol, both the girl and Ivan were heavily intoxicated.

The evening ended in tragedy. The girl died from strangulation from implements used in an apparent bondage ritual; these implements were found with the body. The next day, police discovered the girl's nude body, partially submerged in a nearby stream. An autopsy showed strangulation to be the cause of death and reflected the victim's extreme intoxication.

The evening of the incident, police followed up on citizen complaints of a nude, male adolescent running through the neighborhood screaming, and had picked up Ivan. The police transported a bloodied and hysterical Ivan to an emergency room. He was sedated and treated for multiple abrasions and contusions.

The following day Ivan explained to the police that several adult males accosted him and the victim. The intruders haphazardly disrobed Ivan and beat him "to teach him a lesson." Ivan was not sure what the intruders did with his female friend. Police investigators determined that it was possible that intruders came upon the scene; the secluded area was well frequented by adolescents who engaged in the consumption of alcohol and illicit substances. Suspiciously, there was no evidence of Ivan's clothes or the victim's clothing. Ivan was charged in the matter. The treating medical staff later testified that Ivan's injuries were more consistent with his running or being dragged through underbrush as opposed to his having been pummeled.

A defense-retained clinician opined that Ivan was not criminally responsible due to an acute psychotic state induced by chronic and habitual substance abuse. One of the authors was court-ordered to evaluate Ivan regarding the issue of criminal responsibility. During the course of the evaluation and while interviewing the investigating police detectives, the clinician was invited to visit the crime scene. The visit to the crime scene took place approximately two months after the incident. In the intervening period, the season had changed abruptly from summer to fall and the leaves had fallen from surrounding trees. After a fruitless hour and a half search and survey, one of the police detectives happened to look up into the surrounding trees and observed what appeared to be a plastic trash bag. The bag was almost 30 feet off the ground but readily retrieved by the officer by climbing a series of branches. The bag contained the victim's and Ivan's clothes. Subsequently Ivan confessed to the crime.

The discovery of the telling evidence in the Ivan case example was somewhat serendipitous. The case, nonetheless, illustrates the relevance of perpetrator behavior following the critical incident. The discovery of the well-hidden plastic bag dispelled the argument of a confused psychotic state, which purportedly had rendered Ivan from being criminally responsible.

Information relevant to distortion about the critical incident includes: (a) verbal statements about capacities versus self-control at the time of the instant offense, (b) blood alcohol concentration versus self-reported alcohol ingestion, (c) comparing observations of witnesses to those provided by the client, and (d) statements about past behavior which violate known diagnostic criteria or can be demonstrated to be false. [Table 5.3](#) lists other process factors when assessing for deception.

[Table 5.3](#) is an important tool for the forensic examiner for deception and distortion. Retrospectively, the examiner insures that he or she has covered all the bases in deception analysis.

We have already stressed the importance of an adequate database prior to the clinical assessment. The evaluator must also approach the post-hoc decision tree with a firm grasp of the database. Next, nondeliberate distortion must be either ruled out or taken into consideration.

Table 5.3 Retrospective Forensic Decision Analysis Steps

-
- A. Forensic database
 - 1. Multisourced
 - 2. Interdisciplinary
 - B. Rule out/account for nondeliberate distortion
 - 1. Reporting person
 - 2. Reported event
 - 3. Evaluation errors
 - C. Rule in deliberate distortion
 - 1. Examiner factors
 - 2. Individual examined
 - 3. Cross-validating sources
 - D. Determination of response style
 - 1. No distortion
 - 2. Faking good
 - 3. Faking bad
 - 4. Invalidation of results
 - 5. Mixed style
 - 6. Fluctuating style
 - E. Conclusions
 - 1. Sufficiency of data
 - 2. Degree of deception
 - 3. Confidence in judgment
 - 4. Likely targets of deception
 - 5. Temporal limits
 - 6. Feedback mechanism
 - 7. Intervention recommendations
-

Deliberate distortion must then be examined in witnesses and significant others, the accused, and the evaluator. Eventually, the subject's deception style must be identified. Lastly, conclusions regarding deception are presented.

The evaluator's report must first be able to state explicitly that the database was sufficient to draw conclusions to a reasonable degree of psychological certainty. If the assessment findings are not able to satisfy this criterion, then the report should acknowledge this, and not proceed with any pertinent opinions about deception. If the assessment findings cannot meaningfully address the issue of deception, then opinions regarding other ultimate issues must either be qualified or result in no opinion. Second, the degree of deception uncovered should also be specified.

Whatever the response style, the degree of deception uncovered must be specified as illustrated in [Table 5.4](#).

Third, the confidence level of the evaluator's judgment about deception needs to be specified. Base-rates and empirical support, as [Table 5.5](#) shows, should validate one's conclusions whenever possible.

Table 5.4 Degree of Deception Uncovered

	Faking Bad	Faking Good
1. Negligible	No evidence of deception	No evidence of deception
2. Minimal	Basically honest, but with some exaggeration of symptoms or minimization of strengths	Basically honest with some minimization of negative behaviors and/or exaggeration of positive attributes
3. Mild	Exaggeration of several critical symptoms and/or minimization of several positive behaviors	Minimization of several critical symptoms or exaggeration of several critical positive attributes
4. Moderate	Creation or fabrication of several critical symptoms or denial of several critical positive behaviors	Denial of several critical factors or fabrication of several critical positive attributes
5. Considerable	Creation or fabrication of a wide range of critical symptoms or denial of a wide range of positive behaviors	Denial of a wide range of critical behaviors or fabrication of a wide range of positive attributes
6. Extreme	Faked or denied behaviors are absurd with absolutely no basis in reality	Denied or fabricated behaviors are patently obvious and can be easily demonstrated

Table 5.5 Confidence in Evaluation Findings

1. Negligible	The examiner has no confidence in evaluation findings; the probability of valid findings in terms of classifying the person is 0%–10%
2. Minimal	Findings are congruent with theory and yield some information about distortion, but there is much conflicting and/or insignificant data; the probability of valid findings in terms of accurately classifying the person is 11%–25%
3. Mild	The probability of valid findings in terms of accurately classifying the person is 26%–50%
4. Moderate	The probability of valid findings in terms of accurately classifying the person is 51%–75%
5. Considerable	The probability of valid findings in terms of accurately classifying the person is 76%–89%
6. Near certain	Findings are supported by research and theory and can be replicated upon reevaluation, using the same test procedures; accuracy is from 90%–100%

Fourth, likely victims and contexts in which deception occurs should be considered. History is the best predictor. The best guesses are those types of victims and settings in which the assessee was rewarded for past deception.

Fifth, the temporal limits of the report, as well as a feedback mechanism to assess opinions, need to be stated as the following illustrates: “The opinion that the accused is currently malingering psychotic symptoms to a moderate degree is valid for one year, after which a reassessment using inpatient observation and psychometric testing is recommended.” It behooves evaluators to be very conservative with such temporal estimates, because human behavior can be very capricious. Intervention recommendations are given when appropriate. The assessee should be treated for nondeliberate distortion, as deficits may affect the ability and motivation to deceive.

Examples where treatment would be appropriate include:

1. Intensive psychotherapy for a child victim preempts assessment for deception. This holds true for all victims, but it is possible to question them during the treatment process.
2. Some fakers have severe associated problems such as psychosis, borderline cognitive ability, and brain damage. They may need treatment for these disorders, as well as assessment for deception.
3. Factitious disorders, variants of faking bad, are usually associated with severe psychopathology, such as willingness to chemically alter the body in order to assume the role of a hospitalized patient.

The literature offers very sparse validation of factitious disorders as an independent diagnosis as opposed to a specific variation of malingering. Rogers, Bagby, and Vincent (1994) compared structured inventory for reported symptoms (SIRS) records of subjects (Ss) diagnosed with factitious disorders with primarily psychological symptoms to 25 suspected malingers. There were no consistent differences between the records of the two groups. The authors suggested use of the factitious disorder diagnosis only on a provisional basis.

Evaluators should keep gathered data for as long as necessary—usually for a minimum of five to ten years after an evaluation. Clinicians must be aware of and abide by local statutory requirements for retention of records, as well as the provisions of the American Psychological Association (APA) Ethical code. Following a criminal or civil action, data should not be released to anyone unless written permission from the original referring party is obtained. A criminal case may have to be retried if an appeal is successful. Finally, we note that clinicians who do forensic work are highly vulnerable to ethical complaints and malpractice torts; the retention of forensic records must take into consideration statute of limitation provisions for ethical complaints and tort actions.

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Deception and Nonverbal Behavior

6

Introduction

Nonverbal behavior is communication without words including the nonlinguistic aspects of verbal behavior. It is a form of human communication that is commonly utilized for the detection of deception (DePaulo 1994; DePaulo & Kirkendol 1989; DePaulo & Rosenthal 1979a 1979b; DePaulo, Rosenthal, Green & Rosenkrantz 1982; DePaulo, Zuckerman, & Rosenthal 1980). The Global Deception Research Team (2006), for example, investigated the most widespread beliefs about deceptive signs from a sampling of 2320 participants from 58 countries, obtaining over 11,000 responses and 103 distinct beliefs. It was found that people's beliefs and biases about nonverbal cues strongly affect the accuracy of deception detection despite a substantial body of research showing that deception has not been reliably inferred from behavior (DePaulo et al. 2003; Sporer & Schwandt 2007; Vrij 2008). Thus, it is critical for the evaluator to separate empirically isolated signs of nonverbal deception, for which there is abundant evidence, from their own ability in individual cases to discern those signs and to use knowledge from the deception literature to form their conclusions.

Nonverbal behavior as a mode of deliberate or nondeliberate communication remains a very pervasive and powerful mode of communication. Nonlinguistic behavior is language, albeit language without words. Most forms of social interaction incorporate nonverbal behavior as a key dynamic. Many everyday situations, for example, engaging salespersons, management and personnel operations, and social situations with intimate others involve nonverbal cues designed to effect outcomes (DePaulo 1992; Ekman 2009; Ekman & Friesen 1969a, 1969b; Ekman & Frank 1993). Nonverbal communication may not always be conscious or deliberate, but the actor through practice and experience can craft and modify their expertise with nonverbal behavior (DePaulo 1988; DePaulo & Kirkendol 1989; Depaulo et al. 2003).

The instigation and effectiveness of deception is significantly influenced by the deceiver motivation to manipulate the receiver perception (Van Beek 2013; DePaulo 1988; DePaulo, Lanier, & Davis 1983; DePaulo, Lassiter, & Stone 1982; DePaulo, Lemay, & Epstein 1991). Liars will often, for example, use (nonverbal) self-manipulation to prevent others from seeing through their falsehoods (Vrij et al. 2008). In real-life interpersonal situations involving many variables, some investigators state that it is virtually impossible to detect lies by just watching people, in agreement with a general finding that people are poor lie detectors regardless of laboratory or other structured research findings that isolate deceptive signs (Vrij et al. 2008).

Forensic clinicians are generally more concerned with intentional deception compared to nondeliberate distortion. Nondeliberate distortion within a judicial setting such as court conveys less culpability. To eliminate confusion, this is an argument for using validated signs from the research literature combined with measures or methods that demonstrate these signs were operative in the instant case.

Another possible confounding factor for forensic examiners is self-deception sometimes leading to false conclusions regarding intention. Siegrist (1995) found, for example, depression and public self-consciousness to be correlated with self-deception in a student population. He suggested that depression and/or low self-esteem may induce self-deception as a coping mechanism. Treating clinicians often fall prey to errors in diagnosis. Individuals may hold, or share with others, an illusory interpretation of a problem. The interpretation results in a less than realistic grasp of the problem situation. Forensic clinicians may also encounter the dynamic intertwined with a serious forensic issue. A good forensic example is disputed custody/visitation matters, where the extent of parental self-disillusionment can be impressive. In a more recent study, Fiquer, Boggio, & Gorenstein (2013) found that nonverbal behavior triggered by clinical depression was associated with behaviors not under the complete control of the person. Easily confused with deliberate deception, they found that facial, head, and hand, and other movements were associated with the severity of depression.

Traditional Nonverbal Leakage Analysis

This section reviews research findings relevant to the analysis of nonverbal deception up to 2000, after which, our understanding and goals in regard to nonverbal deception underwent a significant change. As stated, the findings and signs during this time period may be utilized as hypotheses for further investigation in individual cases. Moreover, most of the uncovered dynamics of nonverbal communication leading to deception remain valid.

Freud addressed nonverbal signals relating to deception when he stated, “He that has eyes to see and ears to hear may convince himself that no mortal can keep a secret. If his lips are silent, he chatters with his fingertips; betrayal oozes out of him at every pore” (Collected Papers, 1959). The literature on “body leakage,” represented in part by Ekman & Friesen (1972b); Ekman, Friesen, and Scherer (1976); Kraut (1978); Ekman, Roper, and Hagman (1980); and DePaulo (1992), reflected a wide array of nonverbal behaviors associated with deception.

Knapp (1974), based on videotaped interviews of 140 undergraduate military veterans, found a number of significant correlates of deception to include: (a) uncertainty, (b) vagueness, (c) nervousness, (d) reticence (total words and probes), (e) dependence, and (f) negative effect (i.e., eye duration, group references, disparaging statements). Knapp saw these six styles as natural, common traits of all people, with liars exceeding the bounds of convention. Anticipating changes in the accepted findings for nonverbal deception, discussed in the next section, Knapp (1974) interpreted the “body leakage” literature as follows:

Scholarly investigations have found a wide variety of nonverbal behaviors associated with liars rather than truthful communicators. According to these studies, liars will have high pitched voices; less gaze duration and longer adaptor duration; fewer illustrators (less enthusiastic),

more hand-shrug emblems (uncertainty), more adaptors - particularly face play adaptors; and less nodding, more speech errors, slower speaking rate and less-immediate positions relative to their partners. Findings have not always been consistent, and researchers have used many methods of creating a deception to study. Furthermore, we don't know which, if any, of the cues just listed are used by observers when attempting to detect deception.

Ekman (1980, 1985); DePaulo, Stone, and Lassiter (1985a); and others (Hall 1986) suggested additional signs, but did not confirm others. These cited studies placed a greater emphasis on motor behavior that deceivers show (see [Table 6.1](#)).

Generally, these investigators, in particular Paul Ekman and Bella DePaulo, found that liars are easier to detect in their fakery when:

1. Strong emotions are experienced by the deceiver during the interview
2. Severe sanctions can be applied to the faker for lying
3. The interviewer and liar share common values, culture, language, and/or are personally acquainted
4. The interviewer has information that only the perpetrator would know
5. An audience is present that is skeptical about the truthfulness of the deceiver
6. The deceiver's personality predisposes him or her to fear, guilt, or "duping delight"
7. The interviewer has a reputation for being fair-minded, but difficult to deceive
8. The interviewer is biased in the direction of believing that the deceiver is a liar or "no good," or is subject to emotion during the interrogation, although this and the preceding interviewer characteristic (number 7) increase the chances of false positives (i.e., non-liars being branded as liars)

On the other hand, Ekman (2009, 1985), in particular, stated that lie-catching is especially difficult when:

1. The deceiver's story is rehearsed
2. Deception involves hiding the true, as opposed to presenting the false
3. There is benefit or gain from the lie

Table 6.1 Nonverbal Signs of Deception

1.	Increased body movement
2.	Gaze aversion
3.	Less assertive and dominant
4.	Higher voice pitch
5.	Longer latency of responses, reticence
6.	More speech errors and higher pitch
7.	Circumstantiality, vagueness
8.	Terser answers
9.	Posture non-congruent with portrayed emotion
10.	Self-grooming responses
11.	Prolonged inappropriate smiling
12.	More negative remarks
13.	Distractibility
14.	Greater interest in test results
15.	Increase in illustrators (e.g., hand motions)

4. The target would ordinarily trust the judgment of the deceiver, especially if the target was successfully lied to previously by the liar
5. The lie is authorized, and the target is a stranger
6. The interviewer must conceal skepticism of the deceiver, as the cognitive focus may be on concealment instead of on the deceiver
7. The liar is practiced in deception, is inventive, clever, articulate, and has good recall skills
8. The liar consistently moves facial muscles to make conversational points
9. The liar is self-deceived and believes in his or her lie, or is a psychopath
10. The interviewer is the type of person who denies, avoids, and represses, expressing positive views toward most people
11. The lie catcher receives some benefit from not exposing the deception

Guidelines for detection which may help somewhat were proffered by Ekman (1985). The face, arms/hands, and legs/feet, in that order, have the capacity to send information with a reverse pattern in actually showing the leakage. The feet/legs are considered a good source of leakage when it occurs. The face, so easily controlled for many people, serves primarily as a distractor to the evaluator. The face reveals deception from so-called “microfacial” movements; however, these are often very difficult to detect. They represent the true, brief facial emotions before they are disguised.

Based on the foregoing, fakers tend to concentrate on the self-control of facial movements, but tend to neglect the limbs. Peripheral movement is rarely involved in positive deception; one would look for lies of omission rather than commission in the hands, for example. Examination of verbal content may be more revealing of actual events than nonverbal behavior. This finding has implications for forensic training and practice. Later discussed, reading transcripts or listening to voice tapes of defendants may yield more information than attending to available visual cues. This would partially counteract fakers who “ham,” or histrionically exhibit “honest” behaviors. The criminal justice system is replete with examinees of this description. Finally, accuracy of detection seems to bear little relationship to the ability to deceive others. People are generally more consistent at successful lying than they are in detecting lies.

DePaulo (1992) reviewed the history of research regarding nonverbal behavior and generally views internal states as reflective of behaviors which are faked. DePaulo described a range of variables, which have been empirically demonstrated to influence nonverbal behavior. These include: (1) cultural factors, (2) practice effect, (3) experience, (4) physical features (e.g., attractiveness), and (5) personality styles (e.g., anxious, defensive, acquiescence, and assertive). It should be noted that research with nonverbal behavior has been conducted primarily from the social and clinical psychology perspective and remains rudimentary in terms of having an empirical basis for routine forensic application.

Ekman & Friesen (1978, 1980), in their Facial Action Coding System, described how the facial musculature presumably triggered by the brain displays distinct patterns of innervation. Following up on this finding, DePaulo (1992) postulated there are, “...hard-wired links between the elicitation of certain basic emotions and the triggering of facial muscles that produce expressions of these emotions” (p. 207). The “hard-wired links” notion suggests that nonverbal behavior has the potential to convey telling cues regarding the emission of intentional faking as mediated by the brain. Unfortunately, as of the date of this writing, reviewed later, no method of brain imaging or brain measurement (e.g., DEEG,

functional Magnetic Resonance Imagery [fMRI], computer tomography [CT], single-photon emission computerized tomography (SPECT), and positron emission tomography (PET)) has yielded consistent and reliable signs of faking behavior.

As we have emphasized in earlier chapters, there is a fundamental interpersonal dimension in all deception. As stated, there must be a source and a receiver of the deception. One critical variable in the overall deception paradigm is whether the deceiver has direct interaction with the observer(s) (Burgoon, Buller, White, Afifi, & Buslig 1999); we will review these particular variables later in the chapter.

The manifestations of nonverbal behavior are multifaceted and, therefore, can be ambiguous for both the actor and the observer. This attribute is the main variable that makes polygraph testing so potentially useful, but at the same time notoriously unreliable (Bradley, MacLaren, & Carle 1996). The ambiguity of nonverbal behavior poses problems for the forensic evaluator in terms of first, accurate detection, and second, accurate interpretation.

DePaulo (1992) stated that nonverbal behavior can be deliberately self-presentational in its entirety, or be in partial, or in complete disguise. For example, an expert witness in testifying before a jury may purposefully alter nonverbal cues. The expert may perceive that the jury is becoming bored or inattentive; the expert may deduce that the jury perceives him or her as being too wordy or too officious. In response, the expert may purposefully alter nonverbal cues, such as relaxing his or her posture or attempting to attenuate nonverbal contact with specific jurors. The expert may deliberately attempt to nonverbally convey, or not convey, being under stress as a means of garnering jury favor. Such calculated behavior alterations at some point can constitute deception, but in conventional usage, the presenter's legitimate effort is to accentuate self-presentation to others. In another context, defendants or forensic subjects can attempt to deliberately manipulate their self-presentation to achieve covert deception objectives. The potential for simulation of basic emotions exists even when the actor is not experiencing the emotion in question. Simulation of emotions is the training and desired virtuoso of many aspects of the arts and theater. It is also a polished ability of many others. Again, DePaulo (1992) makes the point that politicians, religious leaders, psychotherapists, sales persons, parents, con artists, and criminals ply human targets in both positive and negative ways.

Based on her investigations and review of empirical studies primarily from the social psychology perspective, DePaulo (1992) advanced the field by proposing three phases of self-presentational nonverbal behavior. The *first* phase consists of the initial intentions of the actor, but is limited by certain constraints primarily involving cultural factors. For each of the three phases, different variables can influence the style and the effectiveness of the nonverbal communication. The three phases and the pertinent variables are outlined in [Table 6.2](#).

The spectrum of human experiences that can be communicated through nonverbal behavior is impressively broad. DePaulo (1992) adroitly described these functions as spanning eight groups. The eight groups and examples of each are summarized in [Table 6.3](#).

Researchers have been consistent in reporting that, in general, there is no single nonverbal behavioral profile of a deceiver's strategy (Burgoon, Buller, & Guerrero 1995). Behaviors associated with deception are strongly influenced by a variety of interpersonal and interactional variables. In a study of videotapes of adults alternatively telling the truth and then lying, no clear deception profile emerged (Buller et al. 1994). The subjects (Ss) described that their deception efforts were influenced by the type of deception involved (e.g., falsification, concealment, and equivocation), the perceived level of suspicion of

Table 6.2 Variables Influencing Self-Presentational Nonverbal Behavior

Phases of Self-Presentational Nonverbal Behavior	Influencing Variables
First phase: Actor frames the original intention of nonverbal behavior	• Cultural and subcultural variations • Situational variables • Actor's knowledge of relationship between internal states and nonverbal behavior
Second phase: Actor's enactment ability, which can be improved by practice and experience	• Physical characteristics • Range and level of expressive cues • Personal style • Motivational constraints • Emotional constraints • Spontaneous expressive ability • Level of self-esteem and confidence • Constraints on appraisal and ability to modify self-presentation
Third phase: Skill(s) to appraise and modify nonverbal performance in the future	• Legibility of nonverbal expression by perceiver • Actor's nonverbal posing skill • Sensitivity in execution of nonverbal behavior

Source: Adapted from DePaulo, B. M., *Psychol. Bull.*, 111, 203–243, 1991.

Table 6.3 Range of Human Experience Conveyed by Nonverbal Behavior

Function	Examples
1. Physical states	Illness, exhaustion, tension, pain, sleep, death
2. Cognitive states	Thoughtful, pensive, brooding, befuddled, insightful, perplexed
3. Emotion	Excitement, surprise, happiness, glumness, overwhelmed, eagerness, fear, alertness, disappointment, glee, fright, enthusiasm, infatuation
4. Moods	Depressed, buoyant, dejected, hypomania, anticipant, rejected, jealous
5. Values	Patriotism, loyalty, trustworthiness, piety, faithfulness, spirited, paternal, maternal, sociable, agreeable
6. Opinions	Agreement, disagreement, assent, dissent, approval, disapproval, intolerance
7. Personality disposition	Obsessive, perfectionist, picky, macho, dainty, affable, friendly, insolent
8. Psychopathologies	Manic, antisocial, paranoid, intoxicated, comatose, disoriented, depressed, psychotic

Source: Adapted from Buller, D. B. et al., *J. Lang. Soc. Psychol.*, 13, 396–417, 1994.

the receiver, and the perceived degree of familiarity with the receiver (Buller et al. 1994; Burgoon, Buller, Dillman, & Walther 1995).

In an effort to capture these very important aspects of deception as particularly applied to nonverbal behavior, Buller and his colleagues proposed the interpersonal deception theory (Buller, Strzyzewski, & Hunsaker 1991; Burgoon and Buller 1994; Burgoon, Buller, Dillman, & Walther 1995; Burgoon et al. 1999). The interpersonal deception theory postulates that interactive deception differs from non-interactive deception in fundamental ways. Interactive deception results from the combined influences of deceiver goals, social skills, and mutual influence processes involving feedback and interaction dynamics between the deceiver and the receiver.

According to the interpersonal deception theory (Burgoon & Buller 1994), deceivers evidence the following interactional characteristics:

1. More uncertainty and vagueness
2. They are more non-immediate and reticent
3. Show more negative effect
4. Display more arousal and non-composure
5. Generally convey a poorer impression compared to truth-tellers
6. Behavior conveys more formality and submissiveness
7. More apparent relaxation and pleasantness in line with apparent manipulative self-image management efforts

Burgoon et al. (1999) summarized that deceivers adapt to communications (i.e., verbal and nonverbal) from receivers and adapt with reciprocal or compensatory displays. Low involvement by deceivers produces negative feedback from receivers. This negative feedback, in turn, instigated more behavioral adjustments than are necessary with high involvement deceivers. The post-interactive judgments of receivers about deception or truth are directly related to deceiver behavioral displays.

The effectiveness of deceptive behavior is a complicated function of the degree of intimacy between the deceiver and the recipient. Bond et al. (1992) proposed an *expectancy violation* model as a basis for a judge's assessment of deceitful behavior. According to the model, layperson judges perceive deception when nonverbal behavior violates normative expectations. Several experiments were designed to test the model. In each experiment, lay judges observed videotapes of actors exhibiting atypical nonverbal behaviors, such as arm or leg raising, staring, and head tilting. Two S groups, American undergraduates and an illiterate group of natives from Pune, India, both associated higher levels of deception with actors exhibiting "weird" nonverbal behavior. The study demonstrated that judges discern deception based on discrepancies between verbal and nonverbal behavior. The authors proposed that intimate relationships, as opposed to stranger-to-stranger circumstances, significantly influence the expectancy violation model.

In intimate relationships, deception can be very consequential because it impacts directly on the very underpinnings of the relationship. In intimate relationships, the partners know each other in exquisite detail and minor changes are detected and interpreted. Thus, in intimate situations, only minor indicators are perceived to implicate deception. This observation has obvious implications for forensic clinicians that evaluate disputed domestic matters. In intimate relationships, the gender and physical attractiveness of deception targets are influential variables in the intensity and effectiveness of the actor's deception (DePaulo, Stone, & Lassiter 1985b).

Aune, Aune, and Buller (1994) operationalized levels of personal relationships in terms of the length of intimate relationships among college student Ss. They found that for negative emotions, there was a relationship between intensity of emotional expression and experienced emotional intensity emotion. They found no relationship for perceived appropriateness of emotions and level of relationship development for either positive or negative emotions.

One factor demonstrated to interpersonally effect the production of nonverbal behavior is probing inquiries posed by receivers. Buller, Comstock, Aune, and Strzyzewski (1989) described a study with 239 undergraduate students. The Ss served as *sources* or

receivers. The receivers interviewed sources regarding responses to a personality scale. After 1 minute of interaction, one half of the receivers probed the sources for additional information. The probing introduced a number of changes in the nonverbal behavior of the sources, several of which differentiated between deceivers and truth-tellers. The investigators suggested that the probing might have engendered suspicion or uncertainty. Deceptive sources were motivated to modify their nonverbal behavior in an attempt to mask deception-related cues and simulate truthfulness. The probing did not improve the ability of receivers to detect deception; the probing receivers perceived all sources to be truthful.

In a follow-up study utilizing the same experimental design, sources were divided into strangers and friends (Buller, Strzyzewski, & Comstock 1991). Also introduced was the variable of induced suspicion with one half of the sources. Deceptive sources concealed deceit by masking arousal cues and simulating more positive demeanors. The study found that none of the variables of probing, suspicion, nor familiarity improved the detection of deception. Levine and McCornack (1996) critiqued the “probing effect” hypothesis of Buller et al., suggesting that the receivers could more simply attribute the receiver’s response to behavioral adaptation.

Nonverbal behavior occurs by itself and is always an accompaniment of verbal behavior. When nonverbal and verbal behaviors are discrepant, most observers have elevated levels of suspicion. The best deceivers are those who can align nonverbal and verbal behavior even when the two are actually discrepant in the deceiver’s experience. Researchers have studied nonverbal aspects of linguistic behavior and found that many cues can be sensitive cues of discrepancy. Buller, Burgoon, Buslig, and Roiger (1994) described fluency, dominance, formality cues, time spent talking, response latency, smiling, nodding, and linguistic immediacy cues to be reliable in helping to differentiate truthful from untruthful statements. In contrast to truthful statements, equivocal (i.e., deceptive) statements were less clear and less conversationally complete.

In another study, the believability of deceivers was enhanced by increased social skills (Burgoon et al. 1995). The deceiver’s perception of the level of suspicion of the receiver, and familiarity with the receiver, were strong determinants of the deceivers Nonverbal behaviors. The interpersonal determinates of nonverbal behavior in deception are summarized in [Table 6.4](#).

Research psychologists have long been skeptical of observer ability to accurately detect truth from lying based on either verbal or nonverbal behavior or a combination of the two (DePaulo et al. 1982). At the same time, researchers have pursued the analysis of nonverbal behavior as a fruitful approach to the detection of deception. Traditional studies have reflected that accuracy rates of judging deception based on nonverbal behavior cues have been no better than chance (Bond et al. 1992). Earlier studies utilizing judges with various expertises have also yielded essentially chance accuracy rates (Ekman 1985).

In spite of the poor accuracy rate in detecting deception through nonverbal behavior, there has been a persistent thread of research attempting to unlock the secrets of nonverbal behavior as mirroring real inner states. In particular, Ekman and his colleagues since the late 1960s have doggedly pursued the mysteries of nonverbal communication (Ekman & Friesen 1969a, 1969b). Into the early 1970s, the effort continued, exploring various parameters influencing nonverbal behavior. Cultural influences were explored (Ekman 1972, 1977; Ekman & Friesen 1987), and there was an ongoing effort to introduce precision into the meaning and measurement of nonverbal behavior (Ekman 1976, 1981, 1992; Ekman &

Table 6.4 Deception and Interactional Determinants of Nonverbal Behavior

Deception Type	Enhancing Deceiver Qualities	Deceiver Attributes that Assist Detection	Receiver Expertise	Relational Familiarity
1. Falsification	• Fluency	• Less socially skillful	• For most receivers, suspiciousness generally helps detection accuracy	• Pre-interactional and interactional features
	• Positive affect	• Uncertainty and vagueness	• With expert's suspiciousness will often impair detection accuracy	
	• Less hesitant	• Non-immediate and reticent	• Question strategy assists or aggravates inaccuracy	• Familiarity intensifies truth bias, especially when interviewers are suspicious
	• Conveying believability	• More negative affect		
	• Dominance	• More arousal and non-composure		
2. Equivocation	• Formality cues	• Poor impression compared with truth-tellers		
	• Time spent talking			
	• Response latency	• More formal and submissive		
	• Smiling	• Manipulative self-image effort		
	• Nodding			
3. Concealment	• Linguistic immediacy cues			
	• All above and,			
	• Particularly sensitive to deceiver social skills			
	• All in item 1 above and			
	• Using a concealment strategy			

Source: Adapted from Buller, D. B. et al., *J. Lang. Soc. Psychol.*, 13, 396–417, 1994.

Friesen 1974, 1976, 1988). By the mid 1970s, Ekman had begun to focus primarily on facial and linguistic, tonal and inflection cues (Ekman & Friesen 1972a, 1975, 1978, 1980), and this has continued to be his emphasis to the present (Ekman 1989, 1990, 1994; Ekman & Friesen 1988; Ekman et al. 1980).

In laboratory studies, there is evidence that observers are more accurate in detecting deception than conversational participants (Buller, Strzyzewski, & Hunsaker 1991). By definition, conversational participants are more directly drawn into the deceptive interaction and have less ability to detach from cognitive and communication requirements in an interaction. Participants attributed more truth to sources compared to observers, and participants were less accurate detectors than observers. Even when not advised of the deception variable, observers relied more on accurate nonverbal cues than participants. When advised of the deception manipulation, participants relied on inaccurate facial cues, whereas observers relied on inaccurate vocal cues.

Studies by Ekman and his colleagues (Ekman, O'Sullivan, & Frank 1999; Frank & Ekman 1997) and others (deTurck & Miller 1990) have suggested that coaching of certain professionals in nonverbal deception indicators (primarily facial muscle movements and speech tones and inflections) can produce accuracy rates in the 70% to 100% range. In a laboratory study, Ekman, O'Sullivan, Friesen, and Scherer (1991) assessed the measures of vocal behavior and body movement as increasing the accuracy of Ss to detect lying from truthfulness. Ss were instructed to utilize three designated behavioral measures in making their determinations. These measures were two kinds of smiles and voice pitch. The judges' accuracy rate was an impressive 86%. Similar high accuracy rates were demonstrated with judges, Secret Service agents, and ("deception-interested") clinical psychologists in another study (Ekman et al. 1999).

Contemporary Views of Nonverbal Deception Analysis

By the turn of the century, many of the dynamics, signs, and characteristics of nonverbal deception had been uncovered, as reviewed, but detection-detecting on the part of people with whom the deceiver interacted remained static. Why is this so? For the uninitiated and inexperienced, deception probably induces arousal, which then results in discrepant nonverbal cues. This situation is probably well-illustrated in the naive efforts of a young child to deceive parenting figures. In normative situations, the parents readily detect the child's efforts and thereby reinforce the child's trepidation about being discovered. The child is even more reactive with the next effort of deception. In the normative situation, when the child is repeatedly successful in deception, the deception effort becomes practiced, self-satisfying, and unfortunately self-reinforcing.

It is probably not serendipitous that the most common nonverbal cues of deception are focused in the face. On a day-to-day basis, the face is the most visible part of the body. The face is our naked front. Somehow, we have learned as a social species to center our nonverbal reactivity in the facial muscles. Certainly other parts of the body emit nonverbal cues, but thus far, the research suggests that facial cues hold the most valid information for detecting deceit. This does not equate, as we have seen, to the use of facial expression as the most valued indicator of deception. Many observers miss the cues provided by the face.

Despite the elusive nature of nonverbal behavior associated with deception, and the myriad of independent variables that can synergistically interact with one another, findings from the literature suggest that it cannot be ignored in the forensic or clinical evaluation. These include research-based valid signs which stand by themselves, independent of the ability to detect faking. There is evidence that when people are motivated to succeed in their deception, as in avoiding punishment for wrongdoing, cues to deception are stronger than when such incentive is low (DePaulo et al. 2003). These investigators also found that fakers made more negative global impressions on their evaluators than persons not employing deceptive strategies.

As we have seen, relevant professionals—mental health clinicians, police interrogators and police manuals, forensic experts—hold as many incorrect beliefs about nonverbal deception as laypeople or students, and that good deception detectors rely more on verbal cues compared to poor deception detectors, who rely more on nonverbal cues (Boggard, et al. 2016; DePaulo et al. 2003; Sporer & Schwandt 2007; Vrij 2008). Having this knowledge, forensic professionals should examine their own belief system in regard to deception detection. Once evaluators become aware of their own biases and beliefs in regard to nonverbal deception, they can shift their emphasis to employing reliable and valid measures of verbal deception or combination methods. They can still use validated nonverbal signs of deception as hypotheses for further investigation, but be wary of false positives and negatives that come with biases and beliefs in regard to nonverbal deception.

Critically, forensic professionals should examine the literature that suggests the persistence of wrong beliefs about deception may be due to not only illusory correlations and confirmation bias, but also the inadequacy of feedback concerning their credibility judgments (Boggard, et al. 2016; Vrij, Granhag, & Porter 2011). Usually feedback is partial or delayed, not allowing learning and modification to take place within one's belief system regarding deception.

Finally, for this state-of-the-art in nonverbal deception detecting, as discussed in the previous section, the role of technology in the detection of deception is primitive. The polygraph, EEG-QEEG-DEEG, neuro-imaging of various sorts, and voice-stress analyzer are not acceptable under Daubert standards to reliably and validly detect faking. Showing an early promise and offered to the public without adequate research, the fMRI, discussed in the last chapter on emerging technologies, is likewise not sufficient to detect faking. The key case of fMRI lie detection is *United States v. Semrau*, U.S. Court of Appeals, Sixth Circuit. September 7, 2012, 693 F.3d 510 (6th Cir. 2012). After reviewing the scientific literature showing the unreliability of the method, the Semrau court stated:

The prospect of introducing fMRI lie detection results into criminal trials is undoubtedly intriguing and, perhaps, a little scary. See Daniel S. Goldberg, Against Reductionism in Law & Neuroscience, 11 House. J. Health L. & Pol'y 321, 324 n.6 (2012). [Goldberg reviews] literature that "challenges the very idea that fMRI or other novel neuroimaging techniques either can or should be used as evidence in criminal proceedings."). There may well come a time when the capabilities, reliability, and acceptance of fMRI lie detection—or even a technology not yet envisioned—advances to the point that a trial judge will conclude, as did Dr. Laken in this case: "I would subject myself to this over a jury any day". Though we are not at that point today, we recognize that as science moves forward the balancing of Rule 403 may well lean toward finding that the probative value for some advancing technology is sufficient.

Ending on a positive note, the role of technology in detecting faking (or hiding) identity is extremely well-developed, as reviewed in the last chapter of this book. These technologies include methodologies, such as DNA analysis, fingerprinting, and facial recognition systems.

Another positive note comes from the neuropsychological literature on suboptimal performance (i.e., malingering), which shows nonverbal patterns of responding associated with deception on a wide variety of reliable and valid measures of brain functioning. These tests and methods are discussed in the chapters on neuropsychological faking and malingering memory deficits.

Synthesis

The role of nonverbal behavior in forensic behavioral analysis is still in the early stages of usefulness. The evidence is rather clear that nonverbal behavior complements linguistic behavior, but not always in a symmetrical or consistent way. Such asymmetry between nonverbal and verbal behavior may improve the potential utility of nonverbal cues in forensic analysis. Researchers have described a variety of nonverbal cues and behaviors that can signal deception, but not with any reliability from one deception situation to another. The data also indicate that deception ability can improve with practice and experience, particularly with an open mind and with feedback. Hopefully, this learning takes place as soon as possible and certainly before the forensic professional is due to testify in a relevant case as an expert. Meanwhile, the forensic professional should use standardized methods of verbal-based deception, discussed in several chapters in this book.

This chapter has highlighted the incredibly diverse nature of nonverbal communication. Given that diversity, and as DePaulo (1992) observed, it is impressive that the research has been able to establish any reliable cues of deception. It is very apparent that humans can regulate nonverbal behavior for deceptive purposes. Expressed in operational terms, we can control nonverbal behavior for self-presentational purposes. This is what actors and others do to fulfill professional roles and hopefully for benevolent purposes. In some situations, however, modification of nonverbal self-presentation is for the purpose of deliberate and malicious deceit. Every forensic evaluation must account for this possibility even if our detection and interpretive abilities regarding nonverbal behavior remains rather primitive.

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United States v. Semrau, U.S. Court of Appeals, Sixth Circuit. September 7, 2012, 693 F.3d 510 (6th Cir. 2012)

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The Developmental Context of Deception

II



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Deception in Nonhumans

7

Introduction

Beginning in the 1920s, entomologists (Wheeler, 1926) began studying and attempting to categorize levels of social behavior by different species in the animal world. Much of that early work focused on parenting styles and mating rituals by different species in the insect and animal worlds. These early efforts culminated in the publication of E. O. Wilson's text, *Sociobiology: The New Synthesis* (1975). Wilson expanded earlier species by species explanations of social behaviors to a general classification system across species. Some of these patterns of socialized behavior in the insect and animal kingdoms involved rudimentary forms of deceptive activity within and among the different species (Hall & Brosnan, 2017; Lessons from Animal and Plant Deception, n.d.).

By the early 1980s, the comparative psychology literature began to show a pattern of interest in proposal and rebuttal studies regarding the so-called "deception hypothesis" as applied to nonhuman species. Essentially, there are two camps of thought that continue to the present. One camp has advocated that certain species-specific behavior represents deceptive behavior that occurs with implied intentionality; the other camp disputes such anthropomorphic interpretations offering explanations that are more naturalistic (Mitchell & Hamm, 1997). In fact, there is a growing progression of examples at higher levels of animal species that are, at least, suggestive of the manipulative type of premeditated deception that we observe with humans. These examples of animal deception take place at the nonhuman primate level. The examples occur primarily with higher order mammals like household pets (e.g., dogs, cats, guinea pigs, and rodents). Even more striking are the behaviors observed in the wild, and in supervised habitats, with small monkeys to great apes.

At the human level, deliberate and cunning deception usually targets some perceived personal gain for the deceiver (Quiatt, 1987). That is, the deceptive behavior is not motivated primarily by survival needs alone. Unlike what is observed in the nonhuman world, human deceptive behavior can be motivated by pursuit of monetary gain, escape from criminal charges, or other devious motivations involving some type of perceived personal advantage. In other cases of human deception, the quest can be primarily driven by satisfaction at an emotional level. Examples would include circumstances of humans perceiving that they have been wronged, cheated, or bested in some way. In these circumstances, emotional restitution or revenge in a variety of forms becomes the goal. There is, of course, always the possibility of such human dynamics becoming circular, and then extending between, and beyond, the original players. These circumstances can morph into ultimate forms of human versus human perversion including war between nations.

Contemporary social media in conjunction with ever present cell phones capable of high-quality video imaging have popularized animal-featured video vignettes submitted by animal lovers. These portrayals capture animals engaging in astonishingly human-like interactions (Hall & Brosnan, 2017). The photos and videos document nonhuman species

engaging with same species parents and siblings, as well as with animal members of other species. Other video examples portray animals engaging in interactive activities with humans of all ages. The debate regarding the “deception hypothesis” with animals will undoubtedly continue in the absence of a clear demarcation point in the animal world of where cognitive/affective intentionality supersedes behavior motivated by basic instinctual needs to survive and propagate.

For our purposes, however, the ongoing “deception hypothesis” is not critical. At least for the present, comparative psychology researchers are not expected to resolve questions about human deception. The immediate interest is to develop a comparative framework enabling the study of deception from an evolutionary point of view. We begin at plant and animal levels with our study of “deceptive behavior,” and then progress in later chapters to the human world. The plant and animal behaviors described below serve as poignant backdrops to our eventual review of deceptive behavior at the human level.

Our interest is neither to anthropomorphize apparent deception behavior in lesser species, nor to dehumanize the unique qualities of deception by humans (Mitchell & Hamm, 1997). The reader should note that the very language used in describing nonhuman, deceptive behavior can subtly invite humanized application of a given behavior in the animal realm (Gerwehr & Russell, 2004; Mitchell & Hamm, 1997; Mitchell, Thompson, & Miles, 1997). For example, in one study as described in detail below, ants acquire a unique chemical identification marker of an alien ant colony. According to the authors, this enabled, the “chemically camouflaged” ants to enter the alien nest unchallenged and then “rob” the alien nest of stored food. The words *camouflaged* and *rob* connote crafty, intentional effort by the aggressor ant(s) to assume a false identity and then purloin food directly from the nest of the members of an alien colony. This is an interesting, but perhaps overstated description of the actual behavioral event.

Mitchell and Thompson (1986) proposed four levels of deception behavior by nonhuman species:

1. *False markings* (mimicry or camouflage) in actions by certain plants, insects, and animals. For example, a harmless milk snake, mimicking the bright coloring of a venomous coral snake. Another example is the infamous black ink discharge from octopi (Huffard, Boneka, & Full, 2005; Norman & Hochberg, 2005)
2. *False behavior*, such as a predator acting in a manner masking its actual predatory nature around prey
3. *Feigned injury and/or feigned death* either to divert, or to call attention, to a predator
4. *Vocal deception*, such as a chimp vocally misleading other chimps regarding a food source

The investigation of plant and animal deception activity leads to implications for theory and practice at the human level. Up to a point, there are forms of deception that occur in the plant and animal worlds that have parallels in deceptive human behavior. The findings in nonhumans allow for a more grounded understanding of the behavioral factors in descriptions of deception. The study also places into perspective cognitive and affective intent that is characteristic and unique to deception by humans. Lastly, principles from plant and animal deception will eventually be integrated into a meta-theory of deception.

A simple model of consummated deception is illustrated in the following sequence (Hyman, 1989; Mitchell, 1986; Whaley, 1982):

1. Organism “A” emits or conceals a stimulus
2. Organism “B” picks up or misses the input. Misperception takes place
3. Organism “A” obtains a favorable outcome or avoids an unpleasant consequence

Here, “A” communicates to “B” a false or distorted message by emitting or concealing information. It is an untruthful message because it suggests an event of importance to “B” that will not occur, at least not in the usual manner. Successful deception results in a desirable outcome for “A,” depending on whether the message is misperceived by “B,” thus sustaining the deceptive patterns of “A.” An apparently desirable outcome for both “A” and “B” results from the completed sequence. That is, A gains access to food or perhaps a mate. “B,” on the other hand, avoids an undesirable consequence. There are many examples of this proposed sequence.

We will begin with an example from plant life. In Hawaii there is a variety of plant, commonly called “sleeping grass” (*Mimosa pudica*; “sensitive plant”). The plant species folds up when it is disturbed, it thereby assumes the appearance of limp, smaller, or otherwise distressed vegetation. The plant is not engaging in deliberate deception, but there is an inherent “reward” for the plant in that it survives being violated, and the potential consumer of the vegetation is spared the consumption of possibly tainted food. In a successful deception, the deceived consumer behaves as if the false state of affairs had rewarding consequences.

Another form of plant life activity that appears to mimic deceptive behavior occurs with the plant commonly known as the Venus flytrap (*Drosera adelae sarrazenia purpurea gibbus*) (McPherson & Schnell, 2011). The flytrap plant is indigenous to the southeastern United States and was once sold as a novelty item until special harvesting controls were enacted because the plant was becoming endangered. Today, the flytrap plant as well as other carnivorous plant specimens is readily available as novelty items from purveyors over Internet websites. The flytrap plant is “carnivorous” in that it secretes an enzyme that dissolves protein. Small insects are “lured” to pitcher-shaped pods by sweet nectar emitted by the plant. When the insect lands on the pods, sensors cause the pods to close quickly; the insect is trapped for leisurely consumption by the plant.

A primal goal of every living organism, beginning with single-celled organisms and extending to humans, is preservation of the species. Botanists have documented decades of work studying the evolution of the pollination process in flowers. Recent studies have involved the complex pollination process of some orchids (Bohman, Flematti, Barrow, Pichersky, & Peakall, 2016). Pollination is the process of transferring pollen grains from the male *anther* of a flower to the female *stigma*, resulting in the eventual production of seeds. The pollen grain transfer process is accomplished naturally by wind and by the plants producing nectar that attracts insects and birds.

Apropos of our main theme regarding deceptive behavior, researchers Nepi, Grasso, and Mancuso (2018) recently reviewed a complicated process suggesting deceptive behavior evidenced by species of plants. The authors acknowledged that their work and the work of countless other botanical researchers extend back to aspects of the original inspiration of Darwin in the 1850s. The authors described that many plants produce floral nectar (FN), which contains usual pollination properties along with scents and nutrients that attract insect/animal pollinators. Plants also produce extra floral nectar, which powerfully

attracts insects, but does not have regeneration (pollination) properties. This delicate process is ultimately directed at the preservation of the plant stamina because the production of FN, which contains the usual regeneration elements, is costlier to plant integrity. Extra floral nectar, on the other hand, accomplishes the same purpose of attracting pollinators, but without the integrity-loss to the plant as occurs with FN.

The authors note that the overall sequence is one of ongoing plant-life evolution and future study will be directed at the biological mechanisms involved in plants acquiring and initiating the nectar synthesizing processes. In their explanation of the process, the researchers variously employ the descriptive terms “deception,” “cheating,” and “exploitation” and conclude that their review is a commentary on what recent material in the plant research literature refer to as the “manipulation” hypothesis. Orchids have been studied for their unique ability to produce unique floral qualities in their pollen to attract animals (e.g., bees and birds) in order to instigate ongoing pollination. The mystery, however, is how innumerable plant species attract pollinators by biosynthesizing volatile floral compounds that only mimic natural pollen attractors, when in fact they are sterile as to regeneration properties. These ruse (extra floral nectar) compounds to mimic qualities of food, female insects, and egg laying (oviposition) sites. Beyond the olfactory attraction, there is no apparent attraction for the pollinators. Instead, the host plants exploit their specific pollinators by mimicking natural signals of female insects or food sources. Further research will be directed at discovering how plants rapidly evolve new pathways for synthesizing the floral volatiles. Understanding the illusory biosynthesis of attractive, but sterile volatile compounds may eventually enrich farming practices benefiting the production of desired plant foods and controlling growth of non-desired plants (weeds).

Examples of “deceptive behavior” from the animal kingdom are even more remarkable than the examples from the plant world. Some of these animal kingdom examples begin to suggest an intentionality and deliberateness approaching actual human deception. Caution is clearly the watchword, however. Although plant and animal studies can be instructive, generalizing among various levels of species regarding any behavior has limitations.

Insects, such as butterflies with camouflage “predator eyes” as natural coloring on their wings, appeared to “fool” would-be prey into perceiving that the prey are in danger and thus the butterflies avoid undesired consumption by predators (Ho, Schachat, Piel, & Monteiro, 2016). The displaying butterfly thus lives to fly another day.

Birds that “cry wolf” (Munn, 1986) provide another example of mutual possible reward in deceptive behavior. Two species of birds, *Lanio versicolor* and *Thamnomanes schistogynus*, give a predator alarm call to scare off other birds, when their area is approached by predator hawks. In the animal world, a balance between truth and falsehood must be somehow achieved. Bond (1989), an ethnologist, described situations of animal conflict, in which “warning displays” are a balance of the advantages of deception and the disadvantages of effecting skepticism in the receiver. That is, the deception behavior cannot be so strong or blatant that the intended target disregards the deception as “absurd.” The authors are mindful of such a dynamic being played out in the investigative effort by a forensic clinician with a criminal defendant. In such circumstances, defendants in an effort to be convincing, or in an effort to justify behavior that appears to be patently absurd, become increasingly more demonstrative in their claims. This may occur, for example, with a defendant attempting to deceive with claims of psychotic illness.

Small stomatopod crustaceans (*Gonodactylus bredini*) have been observed to engage in “bluffing behavior,” which serves to ward off fellow crustacea as the organisms compete to inhabit new and larger abandoned bony cavities as part of their normal lifecycle evolution

(Adams & Caldwell, 1990). Newly molted, the vulnerable crustacea evidenced a display of threat behavior even though their interim soft flesh status would not enable them to withstand or deliver aggressive blows. The frequency of the “bluffing” was observed to be positively correlated to the size of the opponent. The larger the opponent the more frequent and more vigorous the display of the bluffing behavior. The bluffing was most effective when the intruders were smaller than the resident, but still effective when the intruder exceeded the size of the resident by up to 15%. The investigators reported that, in the laboratory setting of the study, when the crustaceans fought more than once, they appeared to modify their fighting-bluffing behavior according to the outcome of earlier encounters.

Deception behavior in the animal world has also evolved to include cross species interactions. We are reminded of current forensic research delving into cultural and intercultural aspects of deception. For over five decades, the remarkable coevolution of the predator/prey relationship of bats and moths has been described by entomologists (Barber & Conner, 2007; Conner & Corcoran, 2012). The bat-moth story began with the evolution of sonar ability by bats. The unique ultrasonic system is utilized by bats for navigation in the darkness of night and also to track prey in the darkness. Bats seek out small nocturnal insects for nutrition. Moths are nocturnal and a preferred prey of bats. Over time, the hearing of moths evolved to be able to perceive the high frequencies of bat echolocation. In turn, some moth species adapted their flight/evasion tactics to avoid predation by bats. With that development, some bat species responded by moving their echolocation frequencies out of the range of the evolved moths.

The unique behavior of the male stickleback fish while guarding nests containing eggs has been popularized in the National Geographic nature series media (Morris, 2017; Yong, 2014). The male fish engage in “distraction displays” to ward off intruders. With multiple intrusions, the fish bury the eggs in the sand for protection. Whoriskey (1991) investigated fish “distraction behavior” to see if it was male-intrusion specific, that is, a deception to ward off other males, as opposed to an instinctual “foraging” behavior unrelated to the gender of the intruder. The experimental design employed introducing all male, all female, and mixed male/female intruder groups to the nesting area. The distraction behavior was evidenced with all the intruder groupings supporting the foraging hypothesis. The researcher noted, however, that male-intruder groups produced more territorial intrusions than the all-female groups. It was also noted that hatchling survival was superior in mixed gender and all-male trials as compared to the all-female intruder trials.

Ant species recognize nest mates by detecting a common chemical marker unique to the ant colony. Breed et al. (1992) described how acquisition of the chemical camouflage marker enabled *neutrophil* ants to enter and rob food from other target colonies. The authors described intercolonial thievery resulting in the mutual transfer of considerable quantities of food. Acquired chemical camouflage was unique to specific “thief ants,” who would then specialize in pilfering from the target alien colony. The pilfering would be successful because the target colony would not detect the acquired chemical camouflage of the alien ants.

Another example of deceptive behavior in the insect world comes from sugarcane rootstock borer weevils (*Diaprepes abbreviatus*). Harari and Brockman (1999) reported that apparent “homosexual” behavior by females of the inch-long borer beetle was a ruse designed to attract the largest male mates. The researchers noticed that the females of the species would engage in mounting other females. The mounting behavior attracted the largest of male beetles. The large male beetles were likely to mate equally with both females involved in the mounting

deception. The females were similar in appearance to males except that the males were characteristically somewhat larger. The males were attracted to the female's deceptive behavior primarily by observation. The authors concluded that by gravitating to mounting females, the males were likely to be able to mate with at least one female. Male insects are not readily able to distinguish females from other males; the males were drawn therefore, to the action of females in copulating pairs. Mounting females thereby enhanced their opportunity for mating.

A still more sophisticated example of apparent deception in insect mating behavior occurs with the nursery web spider *Pisaura mirabilis* (Ghislandi, Albo, Tunì, & Bilde, 2014; Ghislandi, Beyer, Velado, & Tunì, 2017; Prokop & Maxwell, 2012). In this species, the males typically offer prospective female spiders an insect prey wrapped in white silk. The authors refer to the wrapped white silk prizes as "nuptial gifts." The purpose of the nuptial gift is to facilitate copulation. The female spiders feed on the wrapped silk as a preparatory aspect of copulation. The authors suggested that the practice was an example of the male spiders "exploiting" natural female behavior. Copulation between mates can occur without the gift, but a gift dramatically enhances the success of gift-giving males.

Female spiders are polyandrous; males offering gifts have higher mating success, longer copulations, and increased sperm transfer. The authors observed that approximately a third of the males carried worthless gifts, that is these gifts were comprised of dry and empty insect exoskeletons or plant fragments wrapped in white silk. The exercise of silk wrapping masked the actual gift content and females were able to discern gift content only after accepting and attempting to feed on the gift. The exercise, however, was sufficient for males to effect copulation. According to the authors, the female spider experience with an empty gift donation (i.e., "cheating" by the gift-giving males) led to premature termination of copulation.

Deception among birds may be unintentional, but is still effective. Trained pigeons misreported the correct color of a signal light associated with a reward to fellow pigeons, who had also been trained to the correct signal. The misreporting pigeons thereby obtained more reward for themselves (Lanza, Starr, & Skinner, 1982).

The deception hypothesis has been controversially attributed to the mating behavior of pied flycatcher birds. Female flycatchers typically do not mate with already mated males. Stenmark, Slagsvold, and Lifjeld (1988) observed that already mated male pied flycatchers hide their mating status by singing in secondary (non-nest) territory, thus increasing the probability of obtaining a second mate. The females would mate with already mated males when the females were apparently unaware that the male had mated in another territory. This observation led to the deception hypothesis being ascribed to the male flycatcher. Specifically, the hypothesis was that the males hid their existing mating status and deceived females into polygyny.

To further test the hypothesis, Searcy, Eriksson, and Lundberg (1991) introduced a stimulus female bird to already mated and unmated males. The stimulus female resulted in increased, characteristic mating behavior by both already mated and non-mated males. The authors concluded that the similar behaviors of the two male groups in response to the female-stimulus supported the deception hypothesis. Slagsvold and Dale (1994) observed the mating behavior of the flycatchers by videotaping nest boxes that were being defended by males. There were 19 polygynous matings, 16 of which occurred either by females visiting only mated males or because a competitor had taken over the male's primary nest box. Of the females who visited, both mated and unmated males, the female majority chose unmated males. The authors concluded that their findings lent little support to the

deception hypothesis. They indicated that the females were able to detect male mating status, but nonetheless sometimes chose males who were mated because of the demands of having to search further. It also appeared that females were drawn to male quality (i.e., plumage color and age), irrespective of mating status, but mating status was a more dominant variable.

In another bird study, Boland, Heinsohn, and Cockburn (1997) observed white-winged choughs (*Corcorax melanorhamphos*). These birds live in groups; breeding usually occurs between one dominant pair. Subsequently, all birds in the group cooperate in rearing the young. The authors observed that usually younger members of the group would retrieve food and consume the food themselves instead of feeding the food to the nestlings. This behavior was most likely to occur when the young birds returned to the nest and were not being observed by other group members. Later, the errant birds were more likely to engage in supplemental care of the nestlings. The authors concluded that the young white-winged choughs “acted deceptively” by simulating helping behaviors, but not at the expense of sacrificing their own supply of food.

Deception behavior in animals is often associated with the objective of species survival. Deceptive behavior is utilized to ward off enemies, to attract the opposite sex, and to nurture and protect offspring. Male chickens used food calls when no edible food was present to attract hens to the area (Gyger & Marler, 1988). In another instance of cautioning against overinterpretation, Moffat and Hogan (1992) questioned published accounts of hens using food calls in a selective and deceptive manner with chicks. The investigators trained Burmese red jungle fowl (*Gallus spadiceus*) chicks to a maternal food call with food reinforcement. The study utilized two food-call designs. One was a highly preferred food item (a mealworm), and the other a less preferred food (chick crumbs). The chicks initially approached the food call to the preferred food with faster response time. By the third day, the chicks responded more quickly to whatever food call was reinforced. The authors interpreted that pre-existing preferences to food stimuli were modified in the chicks by functional experience.

Carlsson (1991) hypothesized deceptive courting behavior by male *Tengmalm's* owls. Carlsson observed the singing behavior of male owls over a 2-year period; the male singing behavior was territorial and associated with female recruitment. Owl mating behavior is affected by food availability. The 2-year period of the study coincided with a peak abundance of small rodents (voles); rodents are a preferred owl food. Male owls are characteristically site-tenacious, but when food was abundant, in addition to singing at primary nest holes, the male owls would begin singing at secondary nest holes. The author suggested that the secondary nest hole singing was an effort by “deception” to attract unmated females into polygynous breeding.

In a subsequent response, Sonerud (1992) disputed the “deception hypothesis” being applied to the behavior of the *Tengmalm's* owls. Sonerud offered the explanation that the bigamous behavior of male *Tengmalm's* owls was instinctual and designed to preserve the species. The male owls would feed two females at the same rate during egg laying and incubation. According to Sonerud, this behavior represented an adaptation to the high incidence of nest predation that existed from the time of the pristine boreal forest. If the primary nest was lost to a predator, the male could allocate its energies to feed the secondary nest. These two owl studies highlight the ongoing controversy of anthropomorphizing animal behavior when more parsimonious explanations are more likely.

Red-tailed hawks (common name: “chickenhawks;” binomial name: *Buteo Jamaicensis*) are indigenous throughout North America (Gates, 1972). The female hawks are larger, averaging a 25% height and weight advantage, compared to males (Dunning, 2009). Ornithologists (Orians & Kuhlman, 1956; Seidensticker, 1970) described that common food targets of red-tailed hawks included a variety of small birds (e.g., crows, wrens, and woodpeckers) and animals (e.g., mice, squirrels, voles, and rabbit). There is a recognized innate antagonism between red-tailed hawks and crows in which the two species inhabit the same territorial area. The two species are reported to engage in frequent fighting behavior. Hawks are reported to target crow nests for food, making crows wary of hawks. Hawks have to contend with retaliatory behavior, usually by large groups of crows. Birdwatchers reportedly observe the two species frequently attacking one another, but others have reported witnessing coexisting, at times “playful,” behavior between the two species.

A typical combative scenario involves a single hawk and multiple crows. One of the authors (JGP) resides in Maryland. Recently, during a cold and gloomy early spring day, the author heard a commotion in the backyard. The author’s property borders a section of the heavily wooded National Rock Creek Park trail. Looking through a large window into the backyard, the author observed a large (apparently a female) red-tailed hawk uncharacteristically lying on the ground, squat on her belly, with wings outspread (total wingspan approximately 48 inches). Early spring weather prompts female hawks to begin searching for a nesting site in the high trees. The hawks searching behavior can serve to attract the attention of territorial crows in the area. The hawk sat with her head slightly bowed and eyes listless. To the author, the hawk appeared dazed and possibly injured, although at other moments, the hawk was clearly monitoring the surroundings with keen eye movements.

The commotion was the excited cawing of an estimated dozen crows dispersed at different points in the branches of adjoining tall trees. One crow in particular was positioned above and somewhat to the side of the prostrate hawk. This crow was responsible for most of the cacophony of noise. The entire interaction witnessed by the author consumed no more than 1–2 minutes. Suddenly, the one most noisy crow descended in an aggressive flight posture toward the hawk. In a flash, the hawk ascended in flight to about 30 feet from the ground. The two birds did not appear to actually touch, but they came close together, and we observed a cluster of feathers to slowly fall. The crow veered off quickly in a tight semi-circle, and the much larger, less agile hawk was in quick pursuit, but in a wider circle of flight. The scenario ended unceremoniously with both birds flying off separately in different directions. The author witnessed an apparent masterful act of animal taunting based on a primordial crow/hawk antagonism. The author’s presumption was that the hawk’s behavior was motivated by an attempt to establish a priority posture in the local surroundings. In response to the perceived intrusion of the hawk, the crows engaged in a group protest in an effort to protect their perceived territory.

The subtlety of deceiving behavior is even more remarkable at the level of nonhuman mammals as reflected in the following example:

Cougar, the cat of one of the authors (HVV) and his wife, is allowed to remain on a ledge alongside the dining table provided she does not attempt to obtain food from the table. She has been well-trained in this “paws off” behavior over the years. When a particularly tasty fish dinner was served one evening, Cougar’s attention was riveted to the fish. She moved toward the fish, only to be verbally admonished, so she returned to her original sitting position

on the ledge. Feigning indifference and immobility, her eyes on the wall, she lay down and opened her mouth in a wide yawn. Her front left paw reached up as in a stretch, but instead of retracting it, her paw came to rest on the fish, spread out in a gripping posture. Her eyes, by this time, were on the fish, the yawn no longer in evidence.

Was this deception? Perhaps Cougar merely wished to stretch and found herself in a good position to obtain food. The authors do not know, yet believe, that deception did indeed take place. This belief appears to have predictive power in regard to Cougar's behavior in similar situations. Cougar cannot be trusted totally to act in a non-deceitful fashion when her preferred food is within reach.

The concept of intentionality as a factor in deception becomes increasingly more tempting with observation of other middle and higher scale primates. The tactical deception of baboons (*Papio ursinus*) guarding and securing available food from familiar peers has been documented (Bryne & Whiten, 1985). Deception in *pongoid* apes has been observed to include: (1) use of camouflage, (2) feigning moods and feigning curiosity, and (3) giving false motor signals to others (De Waal, 1986). Mitchell (1991) observed the social behavior of a group of captive lowland gorillas consisting of two adult males, one female, and her infant. The males would repeatedly attempt to interact with the infant, apparently out of curiosity. The mother would intervene in an effort to thwart the males' intrusions. During an 81-hour period, the researcher observed 21 instances of deceptive distracting behavior by the mother in an effort to ward off the adult males' curious behavior toward the infant.

Mangabey monkeys (*Cercocebus torquatus torquatus*) were studied in a socially competitive paradigm (Coussi-Korbel, 1994). Food was hidden in the presence of the animals. One experienced young male repeatedly lost his food to a dominant, more assertive senior male. After several such misfortunes, the young male developed a pattern that when he was informed of the hidden food, he would move via an indirect route to the food. This behavior served purposefully to mislead the dominant male to the young male's advantage. When the dominant male was also informed, the young male observed the dominant male taking the food and would head straight to the remaining hidden food source. The researcher suggested that the young males use of an indirect route when he was informed could not be considered the expected response to a competitive situation, but rather was a behavior evidencing "tactical deception."

Brown capuchin monkeys (*Cebus apella*) were observed to engage in deceptive pointing and withholding communication about the location of hidden food (Mitchell & Anderson, 1997). Three of the monkeys pointed to the food in the presence of a familiar trainer; another monkey withheld communication to peers in the presence of an unfamiliar trainer. The authors suggested that the monkey's behavior was explainable in the learning theory concepts of conditional discrimination and response inhibition.

Primates have been observed engaging in competitive sometimes aggressive behavior with their kin (Lawick-Goodall & Lawick, 1970). Invasion of another's territory, use of surprise and concealment, attacks on other chimpanzees using aggressive methods (e.g., coordinated movements and group attacks), and eventual extermination or chasing away of all males in a conquered territory have been documented. These observations were made by investigators/caretakers of chimpanzees who were members of the famous Gombe Colony in Tanganyika. The chimps were studied by primatologist Jane Goodall (Lawick-Goodall & Lawick, 1970) for more than 10 years. Chimps in captivity at

the famous Arnheim Zoo in the Netherlands have been shown to kill other chimps with apparent intent (Green & Dewar, 1985). Deception and planning appeared to play an integral role in this violent behavior.

The phenomenon of animal deception reveals two primary response tendencies, faking good and faking bad, both of which are operative factors in any deception behavior. The former occurs with faking behaviors that are intended to deny, minimize, or conceal traits/events that would be noxious, dangerous, or otherwise unpleasant to the target. Faking good includes the pretense to have positive traits: tiger stripes blending this predator into the background, an alligator hiding all but its nose and eyes under the water surface, and apes using foliage to conceal their presence from their enemy, all meet this criterion. Hiding the real, and camouflaging, blurring old patterns, and masking from the customary are further possibilities (Ruxton, Sherratt, & Speed, 2004). Faking good always involves looking benign, or more attractive, in order to achieve a desired outcome.

Faking bad is displaying the false by pretending to have negative traits or denying the genuinely positive to obtain a particular goal. Other descriptors of faking bad include fabrication, exaggeration, conjuring, and mimicking, keeping in mind that a new pattern is copied or invented. Harmless snakes with skin patterns of poisonous vipers, birds that “cry wolf,” and buffalo that stamp their feet and snort before a fight with a peer in mating season may fit this criterion. Faking bad always involves looking worse, more dangerous, sick, or negative in order to accomplish a task or to obtain a desired outcome.

Presenting the false and concealing the real are present to some degree in both faking good and faking bad. For deception of either type to occur, the deceived must have engaged in withdrawal or approach of the desired target. Mixed forms of faking good and bad appear with regularity. The fox may fake good by concealment and hiding, only to feign death when trapped and exhausted. The data in [Table 7.1](#) summarizes a model of deceptive styles and animals.

Feigning being dead or being wounded by animals may be archetypal of human malingering. The literature describes such prototypical data spanning the phylogenetic scale:

- Plants that, upon touch, appear lifeless and limp
- Carnivorous plants that have sophisticated luring qualities (odor and structure) to attract and entrap insect quarry
- Spiders, coleopters, and caterpillars that roll up into a ball when trapped
- Ants that adopt chemical olfactory markers to enter and rob from stranger ant nests
- Fish that appear dead when caught, only to swim away if set back in the water

Table 7.1 Deceptive Styles in Animals

Action	Faking Good	Faking Bad
D presents stimulus (shows the false)	T sees as reward if deception is effective (e.g., cat playing with mouse)	T sees a punishment if deception is accurate (e.g., birds that screech false warnings of threats)
D removes stimulus (hides the real)	T sees as reward if deception is accurate (e.g., tiger stripes)	T sees a punishment if deception is accurate (e.g., opossum feigning death)

Note: D equals deceiver; T equals target.

- Plovers and other birds that feign a broken wing to draw predators away from the nest
- Opossums, foxes, and red squirrels feigning death when no escape seems possible
- Monkeys, chimpanzees, apes, and baboons engaging in distracting behavior to lure rival away from food sources or mates; feigning death when defeated by peers or when near death

The literature on animal deception provides a working base upon which to build a general theory of human deception. The range and diversity of deceptive responses and the conditions under which they occur are paralleled in humans, but also expanded and refined at the human level. A microanalysis of deceptive animal behavior also leads to potentially fruitful areas, such as primal response tendencies involved in all deception of faking good and faking bad. Deception, in its simplest form, represents an interactional phenomenon. A recipient organism must react in the desired manner. To trigger this reaction, there must be a “germ of truth” or “glimmer of hope” that serves as a stimulus to attract the organism to be deceived. The crafty creation of this “sliver of attraction” ultimately constitutes the real artistry of deception. Both the plant and animal kingdoms have impressive examples of how nature creates the actuality or illusion of having some need of the intended deceived being met or satisfied.

This review of nonhuman examples of deception has metaphorically illustrated the “Barnum effect,” i.e., “there is a sucker born every minute,” as occurring in plant and animal nature (Beins, 1993). Perhaps the most fundamental lesson from this review of deception is how deception evolves, in every instance, in nonhuman species as a survival tool. The quest is not personal satisfaction, per se, nor an emotional need to deceive. In most instances, the goal is to meet a survival need, and deception becomes a means to meeting that need. With nonhumans, the act of deception is a primarily nondeliberate by-product of species survival. With higher mammals, such as the apes, the question of deliberateness and intentionality becomes a little more ambiguous in terms of whether human attributes are applicable.

In contrast to nonhuman deception, deception at the human level typically involves deliberateness, preplanning, and cunning. Often, there is also a malicious intent. The rationality and capacity for an operative affect in humans elevates quests of survival goals that go beyond pursuit of fundamental necessities. Humans can choose to pursue immediate and long-term goals that are unnecessary to essential survival. Such goals can include, for example, substances of abuse, wealth, sexual aberrations, and encompass a myriad of forms of quackery. All of these pursuits are cognitively and emotionally justified to be essential for existence, and these capacities are important elements of understanding deceptive behavior at the human level.

Deception in nonhuman species offers a fascinating glimpse into primitive forms of deception that presage human level deception. The next several chapters review the developmental dynamics of humans engaging in deception by developmental stages.

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Human Development, Children, and Deceptive Behavior

8

Well, when I was younger, I lied all the time, because once you understand the power of lying, it's really like magic because you transform reality for people.

Louis, C. K.

Introduction

There is a multistep developmental process in the child's acquisition of understanding and engaging in deceptive behavior. Initially, the child must be able to cognitively grasp the concept of faking in some manner for personal gain. In the beginning, this may amount to the child squirming for no more than a father's verbal response, feigning discomfort for a mother's grateful caress, or a container of milk. Eventually, the quest involves higher stakes and the child's manipulative behavior becomes more sophisticated. The quest advances to a chocolate cookie, a change of an uncomfortable diaper, familial interaction. In the beginning, deception for the child is a ploy for some perceived reward or advanced status. The child advances to engaging in deceptive behavior as a player, and eventually as an accomplice, and indeed victim. A child's ability to employ deception evolves from the child's maturation through disheveled stages of cognitive, affective, and interpersonal development.

After usual, preliminary development of sensorimotor skills, the evolutionary role of executive functioning¹ advances the child into the ability to engage in deception. Through new neuroimaging procedures, investigators are identifying specific brain areas involved in a child's engagement in deceptive behavior. Based on neuroimaging studies involving functional magnetic resonance imaging, the left dorsolateral prefrontal cortex has been associated with preparatory production of both deceptive and truth telling responses (Ito et al., 2012; Johnson, Barnhardt, & Zhu, 2004; Priori et al., 2008). From there, other cortical areas are activated and become involved in the child's engagement in deceptive behavior.

Our forensic interest in children and deceptive behavior is a study of multiple inquiries. How does early development contribute to use and reliance on deception in later development? How do children become deception targets, and how do they become unwitting accomplices to self-serving adults? How do children who engage in deception impact on society. What is the process of children engaging in deception in court proceedings as

¹ The term executive function is a neuropsychological construct associated with the prefrontal lobes of the brain with their intimate and rich connections to other cortical, subcortical, and cerebellar sites. Several higher cognitive processes are attributed to effective executive functioning. These processes include planning, goal formulation, and several inhibitory mechanisms.

respondents,² or as witnesses? What is the developmental process of children engaging in formal malingering (Walker, 2011)?

Interest in the developmental evolution of lying and telling the truth by children is attributable to multiple interests. These interests include research of children's suggestibility and related changes in case law seeking a more liberalized use of children as witnesses in the courtroom (Bala, Ramakrishnan, Lindsay, & Lee, 2005; Lee et al., 1997; Mcelvaney, 2019). The research regarding children's understanding of deception has focused on ages 3 through 6 years as being the critical age range when the child conceptually grasps deception behavior and begins to intentionally engage in deceptive behavior. This is not to suggest that the child's grasp of deception during these years approaches the complexity of that of an adult.

Case Study: One of the authors (JGP) has a 4½-year-old grandson, "William." William has been attending preschool and his exposure to classmates has been clearly reflected in his rapidly acquired wealth of new social behaviors, some desirable, some not so attractive. Recently in conversation with William and his 7-year-old sister "Addelyn," Addelyn was quizzing "Grampy" regarding her peer-acquired collection of "knock-knock" jokes. William appeared to grasp the gist of the dialogue in that the end of the joke should elicit a surprised and humorous reaction with the listener(s). He clearly did not grasp the construction of a humor connection between a "knock-knock" inquiry and a logical response. Not to be left out of the conversation, William inquired, "Grampy, do you want to hear a joke?" William continued, "What was in the truck?" The author hesitantly replied, "A steering wheel?" A delighted William loudly responded, "No." Trying once more, the author suggested, "Seats to sit on?" Giggling, William shouted again, even more loudly, "No." Addelyn spoke up and inquired, "Okay William, what is the answer?" Barely able to hold his delight, William replied, "An elephant." This was followed by raucous laughter from William. Grampy and Addelyn paused in contemplative silence. Following a thoughtful pause, Addelyn dismissively replied, "William, that doesn't even make sense."

The interaction with William reflected that although he grasped the act of "telling a joke" to evoke a humorous reaction, as his sister admonished, he did not yet understand the usual cause/effect construction of a joke. A child's evolving grasp of the cause/effect nature of deceptive behavior follows a similarly staggered, developmental course.

Research reflects that children as young as 3 years old can engage in deception and will take steps to obscure truth. A meta-analysis study (Gongola, Scurich, & Quas, 2017) reviewed 45 studies of adults judging whether children in a variety of settings were telling the truth. The authors determined that the adult raters had a mean average of 54% correct detection of the children's levels of deception. While slightly above average, this detection rate by adults is comparable to that of adults rating adults. This is a telling commentary on the efforts of adults to engage children in efforts to model the importance of truth telling in daily life. Adults are simply not entirely accurate in their assessments of when children are truthful or not. This occurs in a variety of everyday contexts, for example, in the home, in the neighborhood, and at school. For some youngsters, it can also include forensic settings such as police inquiries, the juvenile court, and as a witness in the family court in matters of custody and child maltreatment.

² Respondent is the juvenile justice system term in many jurisdictions for a youngster charged with a crime. Respondent is equivalent to the adult system term defendant. The traditional effort in the juvenile justice system is to recognize the basic differences, in terms of cognitive ability and social-emotional maturity, between children and adults. Thus, the difference in terminology and the hopeful acknowledgement is that juvenile offenders are more malleable to change when it comes to sentencing considerations as compared to adult defendants.

In some situations, a child's deceptive behavior may be a child's formative attempts to engage in a teasing behavior with observing adults. This could occur in reaction to a deceptive ploy by an adult, such as the babysitter who suggests that the cookie jar is empty when the child knows otherwise. The child may respond that mother refilled the jar before she left to go shopping. Children are also exposed to these types of deceptive ploys constantly with adults and peers. In the child's world, teasing encounters are a natural mode of learning to engage socially. Most forms of deception at this level can involve elements of humor, but also elements of control and manipulation. The teasing behavior is usually regarded as cute, playful, and harmless by observing adults, but the seeds of learning deceptive behavior are nevertheless sown in such contexts of innocence. Children's exposure to deceptive behavior comes from many sources, some of which are timeworn and venerable means of helping children to mature. These sources include biblical stories, nursery rhymes, fairy tales, fables, lullabies, and songs. As children become older, cartoons, computer games, and other media fare perpetuate the same exposure in even more vivid and graphic ways. It is through these multisensory inputs that caretakers, and the media, inculcate the values of good and evil in children. This process begins in the cradle and continues unabated to adulthood. It is in this manner that children learn about deception.

Virtually all fairy tales, fables, nursery rhymes, and lullabies involve examples of deception. In these timeworn stories, and children's songs, youngsters are exposed to the repetition of familiar themes of pathos. "Puff, the Magic Dragon," "Hansel and Gretel," "Little Red Riding Hood," and "Humpty Dumpty" are classic examples. In these children's tales, deception is a common theme. It is usually successful, at least temporarily, for the characters who exercise it. Bad people, usually involving those with self-centered or base motives, perform "bad" deception. Consider further, the influences engendered by the endearing rhymes of "Little Boy Blue," "Little Bo-Peep," "Pussy in the Well," "Jack and Jill," "What Are Little Boys and Girls Made of?" "Who Killed Cock Robin?," "Rock-a-bye, Baby," and "Mother Goose." In the children's fable "Puss in Boots" (Charles Perrault), a fake drowning is concocted to convince the king that the Marquis de Carabas who was Puss's master needed to be saved. Puss then threatens to "chop into fine pieces" any worker in the area who would not lie by affirming that the Marquis indeed owned a large, attractive tract of land. Puss then murders the real landowner, pretending to be awed by the latter's abilities. The Marquis, who is aware of the deception, is rewarded with the land, marries the murdered king's daughter, and makes Puss the prime minister.

The heroine's sisters in "Beauty and the Beast" (Madame Leprince de Beaumont), rubbed onions in their eyes to appear to be crying, illustrating faking bad. In "Cinderella," also by Charles Perrault, the wicked stepmother pretends to be nice to Cinderella until the stepmother marries Cinderella's father, then heaps work and abuse on Cinderella. Not to be outdone, Cinderella yawns and pretends to have been asleep, when opening the door for her stepfamily returning from the ball. Cinderella, of course, had just returned from the ball herself.

Deception is presented in children's stories in other cultures as well. In the Russian fable "Finn, the Keen Falcon," the heroine attempts to hide a diamond pin in a piece of pie dough, but is observed by her jealous sisters. The Sea King's daughter in the Japanese fable, "Urashima and the Turtle," changes into a turtle to see if a fisherman would eat her, thereby proving that he had a good heart when in fact he did not.

Children are exposed to these powerful messages about deception during critical periods of development. Children form early notions about interactions with others

and, in doing so, work through the Eriksonian issues of trust, autonomy, and initiation (Erikson, 1963). Identification with the hero or heroine who deceives may allow children to successfully work through basic mistrust, shame, doubt, and guilt by creating illusions of reality upon which they can operate. A smoother fit into the adult world can be anticipated and is a principal function of learning fables. Both positive and negative effects emerge from this incidental learning. The differences between good and evil, base and altruistic, and crazy and normal are not at all clear and appear to vary as a function of antecedents, the act itself, and the consequences of the deed, whether intended or not. Without ascribing to a relativistic view of morality, children are taught the absolutes of virtue and favorable outcome. They are provided with role models who are honorable (and who win on top of that).

Unlike a viewing of Pinocchio's nose, much deception is unverifiable, with unintentional distortion. These examples of deliberate deception merge in overlapping and non-measurable ways. The themes imparted to children are fanciful, but also are not always realistic. More insidiously, an identification of self with the good—that is, the hero or the heroine—surely occurs from exposure to these fairy tales and fables. The child may come to believe that deception is carried out as a virtuous by-product of this basic goodness. Self-righteousness may result. The etiology of deceptive behavior in humans is in this manner learned behavior. Fortunately, many other events factors into this learning process. Only recently have there been efforts to investigate deceptive behavior empirically in terms of familial and cultural factors, which are clearly also major influences in children's acquisition of an appreciation of deception. In the future, studies will likely be able to clearly discern what genetic factors may contribute to a person's potentials for acquiring and engaging in deceptive behavior.

There are numerous forensic circumstances where the potential for deception by children is encountered. Depending on the age and the maturity of the child, the issues of reliability and cunning must always be points of consideration. A *first* forensic circumstance involves children who are respondents in delinquency matters. A *second* forensic circumstance involves matters of child abuse where children are interrogated during an initial investigation and may be then called to provide testimony in court proceedings. Beginning in the 1990s, the surge of reported child sexual abuse cases created considerable controversy regarding the suggestibility of children as witnesses in the courtroom (for reviews, see Bruck & Ceci, 1997; Bruck, Ceci, & Hembrooke, 1998; Burrows & Powell, 2014; Ceci & Bruck, 1993; Celik et al., 2018). Much of this controversy was spurred on by developmental psychologists who challenged the historical notion that children were not reliable as witnesses (Myers, 1995). The situation resulted in two serious issues that still linger in child abuse matters: the overreporting of abuse that has not actually occurred and the underreporting of abuse that has occurred (Bruck et al., 1998). Today, however, the consensus is that most reported child abuse cases have some validity, but there are always the possibilities of misinformation, fabrication, and falsity (Celik et al., 2018; O'Donohue, Cummings & Willis, 2018).

A *third* forensic circumstance involves child abuse matters where the alleged perpetrator to be evaluated is a child. A *fourth* forensic circumstance can involve family court matters of divorce/custody and children can be called as witnesses. Family court matters involving child witnesses has become an area of ethical mire for forensic evaluators (Kirkland & Kirkland, 2001). A *fifth* forensic circumstance is formal criminal matters where children are called as witnesses. Finally, in some serious, violent crime

matters and, in some jurisdictions, children are charged to be tried as adults. A *sixth* and currently renewed forensic application of truth telling with child witnesses has emerged in the controversy over families and children involved in alleged illegal border crossings into the United States and other countries. Children are subjected to interrogations by border violation investigators and other officials (Chan, Mercer, Yue, Wong, & Griffiths, 2009; Dow, 2011). For a current review see: Migrant children at the border—the facts—cbsnews.com. (n.d.). Retrieved from www.cbsnews.com/news/migrant-children-at-the-border-by-the-numbers/

Empirical Studies of Development and Deception by Children

Piaget (1929) was among the first to observe that children differed from adults in their understanding of lies and truth. A developmental psychologist, Piaget had a special interest in cognition. Piaget's hypotheses about children acquiring a moral awareness were based on their maturing cognition (Burton & Strichartz, 1991; Quinn, 1988). Piaget presented pairs of scenarios to children depicting actors engaging in verbal communication ranging from exaggeration to lying. The children would then be asked to make "moral judgments" about how "naughty" the communications were because they were not the truth. In Piaget's view, children younger than 7 years old were not able to understand the true nature of lies. In the young child's perception, misstatements and false statements were lies; likewise, young children could not discriminate between an actual mistake and a deliberate attempt to be deceitful. Piaget found that younger children based their judgments on how much the actor's statements varied from actuality and whether punishment was involved when lies were told. Children could not grasp the actor's intentionality as a factor in their judgments until around 11 years of age. Piaget (1929, 1959) suggested that children in late childhood do not clearly know the difference between the internal (e.g., psychic) and the external (e.g., environmental). He viewed children as having difficulty recalling the origins of their knowledge. Markman (1979) found that 12-year-old children have difficulty seeing factual inconsistencies without prompting.

In reviewing the research on memory, Johnson and Foley (1984) found children to be credible. They argued that children's recall, while less developed than that of adults, did not possess many of the deficits typically imputed to children's recall (e.g., fusing fantasy with fact). Extending these findings, Burton and Strichartz (1991) found that younger children were less likely than older children and adults to lie because of extenuating circumstances. Also, children were likely to be motivated to be honest or more honest than adults. Some pre-1990s studies suggested that with specific forms of memory, children were more reliable than adults. For example, children may recall visual information better than verbal information (Duncan, Whitney, & Kunen, 1982). Marin, Holmes, Guth, & Kovac (1979) found that children as young as 5 years old were no less competent than adults in their accuracy on a photograph identification task. King and Yuille (1987) reported that children under the age of 6 years were less accurate in photograph identification as compared to older children. Younger children viewed lying as being amoral (Kohlberg, 1981). Children's motives for lying may include obtaining attention, escaping punishment, and/or receiving material rewards. Children at younger ages may create a fantasy explanation to blame another individual. In a study involving 142 preschoolers and kindergartners, Haugaard, Repucci, Laird, & Nauful (1991) found that children grasped definitions of truth, but

the findings also raised concerns about the reliability of children's eyewitness memory. It should be noted that formative issues regarding children's memory intertwine with the child's evolving executive functioning and cognition in general. The clinical assessment of adult recall of childhood experiences must take this into consideration. This observation has direct relevance to the problem of recovered adult memories of childhood sexual abuse being subject to distortion (Ackil & Zaragoza, 1998; Rubin, 1996).

In spite of the accuracy of young children on photograph identification tasks, Parker and Carranza (1989) found that when children (mean age = 9 years) were given the option "none of the above" in a photograph identification task, they were less likely than adults to reject all the photographs. Children in the age range of 6–8 years may use more lax criteria for identifying suspect photographs than do older children. When the correct photograph is present in the line up, children as young as 6 appear to be no less accurate than adults in selecting the correct photo, but when the correct photograph is absent, these children are more likely than adults to select an incorrect photograph.

A developmental view of children as witnesses recognizes the wide variability in developmental status with children of different ages. This information must be considered in assessing a child's veracity. The most relevant findings attribute the potential for distortion to a range of developmental processes, including sensation and perception, cognition, memory, language acquisition, moral awareness, social and emotional maturity, and achievement levels. Accordingly, developmentalists have consistently recommended advanced training in child development to help evaluators detect the truth in individual cases (Goodman, 1984; Lamb, Sternberg, & Esplin, 1995). Goodman (1984) described examples of how knowledge of a child's use of words could assist in detecting perpetrators of sexual abuse when those verbalizations are understood in a developmental context.

Target Behaviors, Age, and Deceptive Behavior

Deceptive behavior with children is a function of their age and respective abilities. Selected accounts of developmentally related distortion from age 4 to age 12 are presented below. These age-range summaries illustrate developmental progressions of deception-related capacities in children. Children mature through these phases at individualized rates.

Ages 0 to 3

Traditionally, children younger than 4 years old have been considered unreliable as witnesses because of their proclivity to interweave fantasy and reality into everyday experience. Opposing attorneys, for example, will mock, "How can the court accept the testimony of someone who still believes in the tooth fairy?" Infants and toddlers have primitive cognitive ability, but anyone experienced in working with younger children know that they evidence awareness of others in characteristic ways. Younger children express clear nonverbal awareness and attachment particularly with significant others. Similarly, younger children can make quite evident their displeasure with someone unfamiliar or distrusted.

Terr (1985) described the potential usefulness of infant testimony to astute clinicians who directly observe the responsiveness of infants to parenting figures. In situations where infants had been traumatized or where parentage was at issue, clinical observation of attachment behavior could be very revealing. In other instances, it is questionable to rely on observations

of the infants' behavior. The child's response may not be reliable because of the passage of time and/or other factors. The courtroom would be a threatening situation for most young children; and observers, to include sitting judges, may not have the ability to accurately interpret a young child's response. "Whenever the expert witness's history, observations, examination, and supporting information concerning the baby are strong and complete enough to bypass the infant's own testimony, such a substitution is to be encouraged" (Terr, 1985, p. 321).

Ages 3 to 4

Empirical studies have consistently found the age range of 3–5 years as the age when children begin to grasp the concept of deception. By the age of 4 years, children understand false beliefs and deceptive ploys (Sodian, Taylor, Harris, & Perner, 1991). The 4-year-olds can try to create false beliefs in others (Ruffman, Olson, Ash, & Keenan, 1993). Prior to age 4, children can engage in deception-like behavior, although not in a very sophisticated manner (Hala, Chandler, & Fritz, 1991; Kang, 2013; Lewis Stanger, & Sullivan, 1989; Rice, Koinis, Sullivan, Tager-Flusberg, & Winner, 1997; Siegal, 1998; Siegal & Peterson, 1994, 1996; Sullivan & Winner, 1993; Zaitchik, 1991).

Perner and Wimmer (1985, 1987, 1988; Wimmer & Perner, 1983) conducted seminal studies regarding children and deception. They described *first-order reasoning*, where the child is aware of a social circumstance involving two other people, for example, Sue and Harry (Wimmer & Perner, 1983). In a subsequent study, Perner & Wimmer (1985) investigated the age that children could differentiate "embedded" thinking in others. Embedded thinking refers to the child's being able to understand the notion of another person's having an awareness of a third person's mental state. Being able to grasp the intention of another actor is an important component of understanding deception. *Second-order reasoning* (Perner & Wimmer, 1985) would be the child's awareness that "Sue thinks that Harry feels..." or "Harry believes that Sue understands...." During the age of 3 to 4 years, the child's cognitive ability matures into a behavioral epistemology; that is, the child becomes capable of a functional theory of knowledge (Wellman, 1990). By the time this occurs, the child is not only aware of himself or herself as differentiated from others, but is also aware of their environment. Hoogenraad and McKenzie (1995) traced this developmental process according to maternal accounts. The authors documented the reports of 100 mothers, who recorded their observations of children who ranged in age from 3 to 7 years.

It is the foregoing process of cognitive-emotional maturation that enables children to begin to manipulate others and their environment. Children understand deception when they conceptually grasp that the victim's false belief is what makes the victim vulnerable to deceit (Peskin, 1996). Age 3 to 6 is the period during which children make this cognitive leap.

Table 8.1 depicts the characteristics of first- and second-order reasoning in detail and summarizes the proposed ages of onset by different researchers. The data illustrate the divergent findings across researchers within a very narrow range of development. These findings have resulted in an array of still-evolving theoretical explanations and novel research paradigms.

Ruffman et al. (1993) use a modified Wimmer and Perner (1983; Perner & Wimmer, 1988) model with 3- and 4-year-old youngsters. They concluded that children aged 4 and younger had difficulties with deception tasks primarily because of cognitive deficiencies. Children could understand how clues could affect an actor-onlooker in a story to have a false belief if the false belief was consistent with the story context. The children would have

Table 8.1 Age of Onset for First- and Second-Level Reasoning in Children by Different Researchers

Level of Reasoning	Functional Ability	Verbal Examples	Researcher(s)
First order	Child's capacity to understand another person's perception of a social situation	"He perceives"; "she perceives"; "they think"	Occurs at ages 3–5 years (Pemer & Winner 1985)
Second order	Includes first-order reasoning plus capacity to ascribe second order thinking to another person	"He believes that she thinks that..."; "she perceives that they feel that..."	Occurs at ages 4–5 years (Sullivan, Zaitchin, & Tager-Flusberg 1994; Peskin 1996) Occurs at ages 5–6 years (Wellman 1990)

difficulty, however, when trying to grasp how a clue could induce the onlooker to have a false belief that would lead the deceived person to change his or her behavior, for example, withhold negative consequences. This is a subtle, but important distinction between a child's conception of deception compared with that of an older child or an adult. Younger children may understand that deceptive behavior can be a means of avoiding negative consequences, but they do not understand how deception can be used to induce the deceived persons to alter their behavior. Young children, therefore, may be able to enact deceptive behavior superficially, but not with any purposeful intent in terms of achieving a desired goal, or avoiding negative consequences for themselves.

Polak and Harris (1999) replicated an earlier paradigm (Lewis, Stanger, & Sullivan, 1989) of asking youngsters not to touch a toy placed in a box when the experimenter left the room. The researchers found that most of the preschoolers (ages 2–5 years) in the experimental group touched the toy, and then denied doing so. The youngsters were therefore able to engage in deception of a misdeed, but were less effective feigning ignorance of the contents of the toy box. The act of feigning ignorance was interpreted to be a more sophisticated level of deception.

Krause and Saamio (1993) conducted a study with 3- to 5-year-olds investigating the children's understanding of whether objects were edible in terms of appearance. The 4- and 5-year-old clearly understood the edibility of non-deceptive objects, but the 3-year-olds did not. All the youngsters had problems with deceptive objects (i.e., a magnet that looked like candy); the children made correct judgments of the non-edibility of the magnets only 50% of the time.

Siegal and Peterson (1996, 1998) used teddy bears as actors and presented children with scenarios of the bears lying, not lying, or being mistaken about bread that was edible or moldy. The researchers investigated the abilities of 3-, 4-, and 5-year-olds to discriminate deception from being mistaken. These researchers cautioned that children's failure to distinguish deception from mistakes must account for the artificiality of the setting. That is, the younger children's difficulties in the posed tasks may have been due to extraneous conversational or contextual factors. Children's responses to laboratory-contrived scenarios may also reflect the children's personalized concerns as opposed to the intended scientific purpose of the researchers. Siegal and Peterson found that many of the 4- and 5-year-olds and even some of the 3-year-olds could differentiate deception from mistaken beliefs by actors in the food contamination scenarios. The authors suggested

that since food ingestion was central to children's self-interests, the study involved an inherently motivating element that may have been the basis for the higher discrimination rates in their study.

Numerous researchers (Flavell, Green, & Flavell, 1986; Horhota & Blanchard-Fields, 2006; Rice et al., 1997; Sullivan & Winner, 1993) have postulated a *correspondence bias*³ in young children. Correspondence bias refers to the child's tendency to adopt a single representation of an object that is most acceptable to the child. Thus, if a child perceives an object as a block of wood, it is difficult for the child to reorient to a perception that the object may in fact be made of another substance, such as plastic or rubber. Researchers have suggested that correspondence bias is the reason young children may have difficulty grasping false-belief tasks (Rice et al., 1997). A proposed alternative explanation was that young children do not have enough information-processing ability because of neuropsychological immaturity. That is, the child cannot grasp the concept of two conflicting reality identities about the same object at the same time (Rice et al., 1997).

There is evidence (Chandler, Fritz, & Hala, 1989; Rice et al., 1997; Saltmarsh & Mitchell, 1998; Sullivan & Winner, 1993) that correspondence bias in children can be overcome if the false-belief task is presented in the explicit context of a deception scenario. The context of deception may put the children on alert that alternative explanations of the false-belief task should be considered. Carlson, Moses, & Hix (1998) conducted a series of studies with 3- and 4-year-olds and found that the children's difficulties with false-belief tasks were due less to conceptual difficulty and more to a lack of inhibitory control. That is, the children could not disinhibit cognitive conflicts to grasp a false-belief situation. If an object looked like food in terms of its sensory characteristics, then young children would not entertain the possibility of the object's being (intentionally) disguised to appear as food.

Russell, Mauthner, Sharpe, & Tidswell (1991) compared the abilities of 3- and 4-year-old to 7- to 27-year-old subjects with autism engaging in a strategic deception task. The subjects tried to win chocolates and had to point to an empty or to a baited box. The correct strategy was to point to the empty box. Children who were 4 years old would quickly grasp the correct response. The 3-year-olds and the subjects with autism, however, would consistently point to the incorrect box. The authors theorized that the 3-year-olds and the subjects with autism persisted with a "false belief" strategy because they could not inhibit knowledge about desired-object location to shift epistemic strategy. Inhibitory control is one aspect of neurological executive function and has been linked as a critical capacity to children's abilities to understand deceit (Hughes, 1998). Reinecke, Newman, Kurtz, & Ryan (1997) also investigated the similar limitations of adolescents with autism being able to grasp deception strategies.

Youngsters this age are resistant to non-coercive suggestion (Lamb et al., 1995) but are susceptible to misleading postevent information (Lampinen & Smith, 1995). In comparison with adults, youngsters this age are not able to correct for false information due to deliberate deception by the source.

³ "Correspondence bias" is a social psychology concept (for a summary review, see Gilbert & Malone 1995) referencing a tendency to overestimate internal perceptual factors over external factors as motivating behavioral choices. The bias is more prevalent in younger than older children, but varies as a perceptual bias throughout the lifespan. For example, correspondence bias becomes more predominant in older adults.

Heyman, Sritanyaratana, and Vanderbilt (2013) conducted a series of studies with 3- and 4-year-old youngsters. The children responded to the mistaken advice of a “Big Bad Wolf” puppet. In a separate study, the youngsters were told that they were responding to a mechanical cue rather than to the advice of the Wolf; these youngsters were better at rejecting the incorrect advice. The authors concluded that the findings correlated with levels of executive functioning involving the ability to reject (inhibit) the response to advice from others. The influence of executive function involvement must clearly be coupled with the influence of parents, significant others, and society to guide the child through this developmental process in a wholesome and productive manner. That is, children must be made aware of the potential for deception in any human interaction, but also be made aware of the potential negative consequences of deceptive behavior both to themselves and to others. This parental/societal responsibility is a challenging feat. Clearly, adults do not always carry out this aim in an effective manner. As a result, youngsters can learn early on how to negatively engage in deception.

One of the authors (JGP) recalls a personal example of the challenge.

Case example—Joseph: The author and his wife would travel out-of-state every year to visit with their son’s family for the Thanksgiving holiday. The son and his wife had five children, the youngest of whom was 4-year-old Joseph. Joseph had four older sisters each of whom “protected” him in a motherly fashion. The family tradition became that at the end of the holiday meal, the children would play the “dollar game” with “Grampy.” Grampy would ask questions which he knew the youngsters were familiar based on interactions throughout the several days holiday. It became obvious that the questions had to be acclimated according to each of the youngsters’ ages. Grampy posed a question to 4-year-old Joseph as to whether would rather have the “dirty old piece of green paper” (a crumpled dollar bill) held in one of Grampy’s hands or the “big, bright shiny coin” (a quarter) in Grampy’s other hand. Much to the disappointment of his four older sisters, Joseph chose the quarter; he was granted his request. A year later the same question was posed to Joseph after the festive dinner. This time Joseph looked at his parents and then his sisters; he responded, “Grampy, could I have the shiny coin wrapped up in the dirty old piece of green paper?” Joseph’s request was honored to the approving glee of his sisters. Today, the five youngsters are all young adults and at family get-togethers recall their memories of the interaction with approval and fondness.

Ages 4 to 5

Annon (1987) suggested that all capacities considered, some 4-year-olds could be qualified as courtroom witnesses. According to Annon, the 4-year-old child is in a transition period and can be considered a competent witness with proper, non-leading questions. This opinion regarding 4-year-olds assumes that youngsters this age can differentiate fact from fantasy. At the present time, the 4-year-old cut-off is not widely adopted by either clinicians or the courts.

In a review article, Ceci and Bruck (1993) reported that in 88% of the studies that compared preschoolers to older children or to adults, the preschoolers were the most vulnerable to suggestion. In a study addressing children’s competence to take the oath, 4-year-olds with histories of being maltreated recognized the immorality of lying, but tended to find all statements as the “truth” (Lyon & Saywitz, 1999). In the same study, 5-year-olds could correctly differentiate truthful statements from lies, but could not define the meaning of

“lie” or “truth.” The authors suggested that children’s oath-taking competence is underestimated because of linguistic and motivational difficulties.

Relevant to the potential for deliberate distortion, many studies show that between 21% and 49% of children in this age group evidence lying behavior (Stouthamer-Loeber, 1986). Stouthamer-Loeber cites statistics of the reasons for lying. Avoiding punishment is the main reason for children in this age group to lie. According to the subjects’ mothers, avoidance of punishment made up 44% of all excuses. Other reasons include confusion (15%), self-gain (14%), playing or having fun (10%), and protecting self-esteem (6%).

The previously cited Perner and Wimmer (1985) study presented stories to children of different ages. The stories portrayed person-actors in different social scenarios. The children would have to respond to inquiries designed to measure whether they grasped the levels of social interactions depicted in the stories. The authors concluded that children could not understand second-order reasoning (i.e., attributed mental states in the story characters) until age 6–7 years. It is important to recognize that the child’s ability to understand that second-order reasoning is a critical element in the child’s ability to understand complex social interactions.

Deceptive behavior is a complex social interaction involving the deceiver and the deceived. Deception makes a social interaction not what it overtly appears to be. To understand deception, the child must be able to grasp the capacity of one person being covertly aware of another person’s mental state. Deception occurs when that covert awareness of another person’s mental state is inaccurate because of the intention of the other person to deceive. Understanding deceptive behavior is, therefore, a sophisticated, developmental ability whereby the child must grasp both the cognitive intent and the volitional decision of the deceiver.

Sullivan, Zaitchik, and Tager-Flusberg (1994) replicated the Perner and Wimmer research. The original stories were changed; the stories were shortened and made less complex. The research also incorporated a new story design. The new stories introduced an explicit deception theme. Prior research (Sullivan & Winner, 1993) determined children’s ability to perceive false-belief circumstances was eased by the story line’s having a deception context. For example, deception-based stories portrayed a mother misleading a child about a birthday gift to surprise the child. The child-actor, meanwhile, discovered the gift, thereby taking away any element of surprise.

These findings reflect that preschoolers and kindergartners are capable of second-order reasoning whereby the children correctly found story subject’s attributing mental states to other story characters. For younger children, there was an identifiable, intermediary step where children would first recognize a story-actor as being ignorant of an event as opposed to the child’s understanding the actor as having a false belief about the event. It was easier for children to understand an actor’s being ignorant compared with comprehending that the actor had a false belief. The developmental window for children’s being able to grasp the difference between the actor being’s ignorant and being deceptive was less than 2 years. In contrast to the earlier finding by Perner and Wimmer (1985) that ages 6–7 years was the critical age range, the current authors hypothesized that the ages 4–5 years actually marked the emergence of a child’s ability to grasp the meaning of embedded mental states in others. As maturation continues and a child’s information-processing ability progresses, this second-order reasoning ability becomes more sophisticated.

Children from 4 to 6 years of age are at a critical stage with cognitive, memory, and social developmental factors being highly interactive and prominent in the child’s growth curve. Accordingly, youngsters this age are very vulnerable to bias influence

induced during interpersonal activity. This has obvious implications for forensic clinicians evaluating youngsters in this age group. In a laboratory study, Lepore and SESCO (1994) found that 4- to 6-year-olds produced misleading reports about their interactions with both familiar and unfamiliar adults when prompted to do so by an opinionated adult interviewer.

In a more recent study (Ding et al., 2018), 4- to 5-year-old youngsters were exposed to a hide and seek game with adults. The experimental group were taught to use deception to prevent their whereabouts from being discovered. According to the researchers, children exposed to the experimental condition significantly improved their executive function on independent measures. The authors concluded that youngsters exposed to learning deception behavior showed enhanced cognitive skills.

Ages 5 to 6

Children in this age group do not differ significantly from adults on answering simple “yes-no” questions, correctly naming photographs of confederates, or being misled by leading task instructions or questions (Marin et al., 1979). In general, Marin’s data revealed that eyewitness identification was poor along all age ranges, from childhood to adulthood (25%–50% of subjects were unable to recognize a target male from six photographs). The number of incorrect items (as opposed to not guessing) increased linearly with age. Marin et al. summarized the findings by stating that children are no less accurate than adults in responding to direct objective questions, but are less capable in giving narrative descriptions of target events. In other words, the children in this age group said little, but were correct in their representations of events. Further, 5- and 6-year-old children are unable to hide their deception by controlling facial expressions, voice tone, and speech content (Feldman & White, 1980; Morency & Kraus, 1982).

Although children by the ages of 5 and 6 years have an essential cognitive grasp of deceptive behavior, their discriminatory ability about the subtleties of deception is still evolving. Winner and Leekam (1991) presented stories to 5- to 7-year-olds. The stories ended in either deceptive or ironic statements. Correct judgments by the subjects were keyed to their correct understanding of the speaker as wanting the listener to believe them or not. Speaker intonation (sarcasm for irony; sincerity for the lie) was not a discerning variable in the children’s judgment accuracy. The main finding was that the children in this age group accurately perceived the speaker’s intention. This replicated earlier findings of 5- to 7-year-old children’s being able to grasp second-order reasoning (i.e., second-order intention in the deceptive actor). The earlier studies used story figures as the deceivers; the current study used a live speaker and produced comparable findings.

In a study of eyewitness memory (Leippe, Romanczyk, & Manion, 1991), 5- to 6-year-olds had less complete free recall and made more errors compared with 9- to 10-year-olds and adults. Likewise, the 5- to 6-year-olds were inferior to adults in correctly naming photographs of a “touching” intruder in a laboratory setting. The children did not identify the intruder six of ten times, and made false identifications once out of four times. The latter finding was a 23% false identification rate, an obviously worrisome forensic finding in terms of young children’s witness performance. Even with 5-year-olds, cognitive interviewing procedures have been reported to improve recall, although the youngsters were susceptible to misleading suggestions (Hayes & Delamothe, 1997).

Ages 6 to 7

Chance and Goldstein (1984) found that, “Face recognition of familiar faces under conditions that permit a clear view of the whole face is quite good, even in children as young as six years.” Children of this age tend to be concrete, with literal interpretations of words and phrases (Ackerman 1981). These developmental considerations bear directly on the issue of nondeliberate distortion. Children in the 6–7 year age range can also read four or more words, add two single-digit numbers, write ten words from memory, and spot missing parts in a picture (Blau 1986). These youngsters can also detect inconsistent information (Ackerman 1983). They may contradict a person’s relating of inconsistent information, especially when the speaker is discredited or is of perceived low status. Children as deceivers are usually detected by untrained others, yet still have some control over their nonverbal responses (Feldman & White, 1980). In general, children in this age group judge lies not by intent, but by whether statements invite punishment or involve forbidden actions or things (Piaget, 1965).

In the forensic setting, most children by the age of 6 years will be able to provide competent testimony, assuming capable, non-prejudicial interviewing (Ackerman, 2010; Lamb et al., 1994; Quas & Goodman, 2012). The ability to differentiate statements as truthful or as lies coupled with the inability to define the difference between “truths” and “lies” persisted from the age of 4 years to the age of 7 years (Lyon & Saywitz, 1999). Using a sample ($N = 86$) of second graders (i.e., 6- to 7-year-olds), cognitive interviewing elicited 64% more correct information in initial interviews and 46% more in a second interview compared with a standard interview (McCauley & Fisher, 1995). Cognitive interview procedures improved recall (Hayes & Delamothe, 1997).

Williams, Moore, Crossman, and Talwar (2016) described a study with 6- to 12-year-old children that involved a disappointing gift model. The youngsters’ abilities to be deceptive were linked to executive functioning and, specifically, working memory and inhibitory control. Children’s manipulative efforts can be informed, constructive, and altruistic, but they can also be cunning and deceptive. Debey, De Schryver, Logan, Suchotzki, and Verschuere (2015) described a cross-sectional, longitudinal (Subject (S) ages from 6 through 77) study of deceptive behavior in terms of proficiency. The authors compared the findings to the inverted, U-shaped curve of changes in inhibitory control through the lifespan measured in a stop-signal task (ability to inhibit active response). The *frequency of lying* increased in childhood, peaked in adolescence, and declined in adulthood.

Ages 7 to 8

Children in this age group see lies as untrue statements (Piaget, 1965). Mistakes are still labeled as lies, but “dirty” or obscene words are not seen as lies, as they were with younger children. A child in this age group can: (1) keep secrets for longer than 1 day, (2) attend to a stimulus, such as a lecture, for up to a quarter hour, (3) repeat five digits, and (4) give simple definitions (Blau, 1986). Malingering of a physical or psychiatric disorder by young children is rare (Quinn, 1988). There is evidence that latency-age children (7–12 years) and adolescents engage in malingering (Greenfield, 1987).

As with younger children, the recall memory of 7- to 8-year-olds can be enhanced with cognitive interviewing techniques (Saywitz, Geiselman, & Bomstein, 1992). Hayes and Delamothe (1997) observed that children younger than 7 years old require extended

exposure to cognitive interviewing techniques to obtain maximum recall enhancement. Children 8 years and older compared equally to adults in perceived confidence and credibility, even when subjected to cross-examination (Luus, Wells, & Turtle, 1995).

Ages 8 to 9

Children in this age group can do all the above, although they still may not see all the conflicting information between successive statements (Markman, 1979). The recall of 9- to 11-year-old children was improved with cognitive interviewing procedures, although children at this age remained susceptible to misleading suggestions (Hayes & Delamothe, 1997). Thijssen et al. (2017) conducted a study of deceptive behavior with 8-year-olds that included neuroimaging. The youngsters ($N = 163$) were subjected to high and minimal risk conditions in terms of the chance of being discovered in deception. In the minimal risk condition, the majority of the 8-year-olds were deceptive (74%). Under the high-risk condition, 57% of the children were deceptive. Utilizing aggregate scores of demographics, deceptive youngsters were more likely to be girls and to come from families of higher socio-economic status. During the application of the experimental conditions, the youngster's neurobiological status was also measured through neuroimaging (functional magnetic resonance imaging analyses). According to whether the children were high or minimal risk deceivers, the authors found varying, but consistent coactivation levels in the bilateral anterior cingulate cortex and the right frontal pole of the brain. These cortical areas are known to be involved in behavioral aspects of executive functioning (Mansouri, Buckley, Mahboubi & Tanaka, 2015).

Ages 9 to 10

Piaget (1959, 1965) described that children 10 years old and older could grasp the intentionality of a deceitful effort, but still could not grasp the subtleties of deception, as could an adult. Youngsters in this age range "can (successfully) fool their peers, adult strangers, and at times, their parents" (Quinn, 1988). Children from 9 to 12 years old can fake believable neuropsychological deficits. Faust, Hart, and Guilmette (1988) found that none of 42 professional evaluators detected malingering in three children who had been instructed to fake bad. The neuropsychologists diagnosed abnormality with 93% accuracy; 87% said that cortical dysfunction was indicated by neuropsychological test results. In a study of eyewitness accuracy, Leippe et al. (1991) found that 9- and 10-year-olds had recognition accuracy comparable to college students.

Ages 10 to 11

At this age, disguised, briefly viewed, and previously unfamiliar faces can be readily recognized (Chance & Goldstein, 1984). Children younger than 10 years old are unreliable in this ability. There is a shift at this age to a focus on the intent of lying. Piaget (1965) pointed out that these children focus on intent in lying and give adult definitions of prevarication. The recall of youngsters in this age group was significantly enhanced with cognitive interviewing techniques (Saywitz et al., 1992). These youngsters showed pronounced recall improvement with cognitive questioning about an irrelevant event compared with younger children. This finding has obvious implications for real-life situations wherein children this age could benefit from select, practice interviewing that would not prejudice inquiries about specific forensic events.

In a study involving 98, 10-year-olds, Braginsky (1970) investigated the effect of Machiavellianism ("Mach") on lying. He found that high-Mach subjects (exploitive, manipulative) clearly evidenced more false information, distorted true information, and concealed information. The subjects acted in misleading ways to influence the target person. Gender differences appeared in that high-Mach boys were best at telling lies of commission, while the girls used omission to their advantage. In terms of the ability to deceive strangers, fourth and fifth graders can deceive adults if given adequate incentive (Allen & Atkinson, 1978).

Ages 11 to 12

Social factors are increasing influences by this age; not only are these youngsters influenced by social interactions, they now actively pursue social contact particularly with peers, and they are interpersonally assertive. Preteen children can explain why criminals are locked up. Preteen youngsters can avoid deliberately embarrassing others. They can control their anger, keep secrets if appropriate, and practice other forms of self-control (Blau, 1986). They can justify the disuse of lying in terms of trust and fairness (Peterson, Peterson, & Seeto, 1983).

Other Developmental Determinants of Deception

Ceci and Bruck (1993) posited three factors as important in the suggestibility of children: cognitive, biological, and social. Researchers have explored several socio-cultural variables influencing children's developmental acquisition of deception knowledge and ability. Parenting styles have been described as influencing children's ability to be deceptive. In one study (Cole & Mitchell, 1998) with 57 youngsters, single-parent stress was cited as a major predictor of children's being able to convincingly verbalize an act of deception (expressive deception). In the same study, socio-economic status was predictive of the children's understanding that the mind was capable of being deceived. The conditions of parents being incarcerated, or parents having been involved in criminal behavior, have been noted to influence children's awareness of deception (Gabel, 1992).

Familial characteristics (Cole & Mitchell, 1998; Thomas, Booth-Butterfield, & Booth-Butterfield, 1995; Poirier, 1996) and social factors have been cited as important determinants of deceptive behavior in children (Kawakami, 1995). The broad role of socio-cultural variables has also been extensively explored (Aune & Waters, 1994; Bartholomew, 1994; Dunn et al., 1991; Lee et al., 1997; Siegal & Peterson, 1994, 1995, 1998). It has been suggested, for example, that exposure to diverse cultures can promote greater verbal communication to children that encourages greater awareness of mental states (Siegal & Peterson, 1995).

There are several psychometric measures that can effectively be utilized with children. These include embedded measures of deception and distortion found in intellectual tests, such as the Stanford-Binet Intelligence Scales, Wexler Scales, and neuropsychological tests, such as Digit Span, Rey Complex Figure Test, and Finger Tapping. Additionally, comparisons can be made between reports of developmental skills and impairments by parents, teachers, and, depending on their maturity level, children themselves. Relevant instruments would include the traditional Vineland, Connors Continuous Performance Test, 2nd Edition, the Behavior Rating Inventory of Executive of Function, and the Cognitive Assessment System, 2nd Edition.

Children's developmental grasp of deception is related to neurological maturation (Anderson, 1998; Dennis, Barnes, Wilkinson, & Humphreys, 1998; Sodian et al., 1991; Thatcher, 1992). The skills necessary for goal-directed and purposeful activity (i.e., executive function) are mediated by the prefrontal and frontal cortices of the brain (Anderson, 1998; Yokota et al., 2013). The maturation of the right cortical hemisphere is felt to influence a child's ability to moderate interactions with the environment in a practical sense and has been suggested to underlie the child's ability to understand deception (Siegal & Peterson, 1996; Thijssen et al., 2017). The ability of adults to accurately detect false accusations and false recantations in child witnesses in research settings is not impressive, hovering around slightly better than chance (Wyman, Foster, Lavoie, Tong, & Talwar, 2017).

Synthesis

The literature suggests that conclusions about distortion in children should be geared toward developmental abilities and individual circumstances. It is naive to believe that a child is credible or non-credible without considering both nomothetic and ideographic information within a developmental perspective. Both unintentional distortion (i.e., developmental capacities) and deliberate misrepresentation must be considered in evaluating the credibility of child witnesses (Bruck, Ceci, & Hembrooke, 1998).

The potential combinations of non-distortion and deliberate and nondeliberate distortion in child witnesses are often difficult to untangle. Because of emerging cognitive and emotional abilities, the differentiation between deliberate and nondeliberate distortion is not always developmentally precise. Consider the accessory-to-sex syndrome where the child coerced into sex is pressured to keep quiet and to deny any sexual activity if questioned (Burgess & Holmstrom, 1985). After repeated assaults, the child tends to repress the unpleasant aspects of the activity, even if prodded by investigators. Is this deliberate or unintentional distortion? The same may be true of Munchausen syndrome by proxy (Khouadja et al., 2017; Meadow, 1982; Palmer & Yoshimura, 1984), in which a child, usually a preschooler, is ordered to remain silent about an illness or injury, which is fabricated by the caretaker. Is the child's contribution to the ruse due to developmental incapacities or to intentional misrepresentation, or both?

Ceci and Bruck (1993) summarized research exploring what conditions motivate children to lie or to tell the truth. They named five categories of motivation that have been studied:

1. Lying and truth telling to avoid punishment
2. Lying and truth telling to sustain a game
3. Keeping promises
4. Lying and truth telling for personal gain
5. Lying and truth telling to avoid embarrassment

Children and the Judicial System

As we have suggested above, there are multiple ways that children and adolescents become involved in forensic matters. Children are our heritage and our future. By virtue of their age, they are always vulnerable and gullible. Regardless of the forensic circumstances, the

foremost concern in any assessment involving children is protecting the child's welfare. In the courtroom, whether children are witnesses or respondents, the issues of the child's credibility and veracity are always central concerns. Additionally, every child involved in the legal arena is exposed to powerful pressures that heighten the likelihood of both intentional and non-intentional deception. This dynamic occurs because our culture rightfully holds such high regard for the rights and welfare of our children. Not only are the children vulnerable to distortion, but so are their parents, family members, and others associated with their well-being. Children can become involved in the legal system as respondents in juvenile delinquency matters in the juvenile court. Just as with adult criminal defendants, the primary challenge with youngsters charged with delinquent acts is the respondent's veracity. Even younger children can be acutely aware of social taboo forces associated with asocial behavior. Although more naive compared to adults in clinical presentation, children involved in delinquency matters, especially those with serious crimes, can pose formidable deception problems (Oldershaw & Bagby, 1997). In many jurisdictions, children involved in serious crimes (e.g., murder, armed robbery, and rape) can be charged as adults and tried in the adult court where dispositional penalties are far more severe than in the juvenile court. Grisso (1998, 2002) has provided an overview of the issues involved in the forensic assessment of juvenile offenders.

In recognition of the growing problem of juvenile crime, the American Psychological Association formed a Commission on Violence and Youth in May 1991 (Gentry & Eron, 1993). The commission has a specific focus on preventive and rehabilitative interventions. In 1996, the Coordinating Council on Juvenile Justice and Delinquency Prevention (CCJJDP, 1996) proposed an eight-objective nationwide action plan to combat juvenile delinquency.

Statistics reflect that since the early 1990s, the age of youngsters charged with serious crimes has dipped into the preteen years (Poirier, 1999a; Sickmund, Snyder, & Poe-Yamagata, 1997; Tatem-Kelley et al., 1997). This increase of children being involved in serious crime has been attributed, in part, to a rise in gang crime (Poirier, 1999a). Gang involvement and violent juvenile behavior is usually more a problem with adolescents (Taylor, Peterson, Esbensen, & Freng, 2007), and we will discuss gang behavior in greater depth in [Chapter 8](#), which specifically addresses the problem of deception in adolescence. With younger children, the issues of competency to stand trial and criminal responsibility can come into question. The problems of deception in legal matters involving competency and criminal responsibility are addressed in depth in [Chapters 17](#) and [18](#), respectively.

Children who are victims of abuse or neglect comprise a large category of children being called as witnesses. When children have been physically, sexually, or psychologically abused, or when they have been subjected to neglect, the law provides for the courts to assume responsibility for the child. The legal principle involved is that of *parens patriae* (literally "parent of the country") and is a vestige of old English law when kings had sovereign control of their kingdom. The application of *parens patriae* could include "termination of parental rights" and adoption proceedings.

Another point of entry for children into the legal system are those who become involved in the courts as innocent, but affected, parties in domestic court matters. Typically, these are divorce and contested custody/visitation matters, where there are complaints of child neglect or abuse or domestic violence. The foregoing categories are sometimes blended in that some situations may involve combined categories. Additionally, different jurisdictions can have different criteria and different adjudication

protocols. In all legal proceedings involving children, there are two probative concerns for the court. These two issues then become focal concerns for the forensic clinician. Both issues encompass the potential of deception. These issues are the child's *competence as a witness* and secondly, the child's *credibility as a witness*. Competency as a child witness denotes having sufficient developmental maturity to be legally able to provide meaningful testimony. In contrast, credibility is the perceived veracity or, in legal terms, the worthiness of belief of the witness. In legal proceedings, the child witness must first be deemed competent as a witness; and then the trier of fact decides as to the child's credibility. Competence addresses whether a child will be admitted as a witness; credibility addresses how much weight will be given to the child's testimony. A witness, therefore, can be competent, but render non-credible testimony, or a witness can be deemed incompetent, but render credible testimony.

Prior to the 1990s, most United States (U.S.) jurisdictions did not allow expert testimony on the reliability or credibility of child witnesses (McGough, 1991), because such testimony may itself be unreliable (*Utah v. Rimmasch*, 1989). However, a few courts have permitted such testimony (McGough, 1991). More recently, there have been U.S. Supreme Court (SCOTUS) rulings allowing children to testify, as professional methods of credibility analysis have improved. There have also been recent judicial attempts to remedy the problems associated with child witness testimony.

Expert opinions on the reliability of children's complaints influence law enforcement efforts. These opinions also impact child welfare agencies in their investigations for prosecution of child physical or sexual abusers. Forensic experts are influential in their formulation of opinions on other substantive questions (e.g., parental fitness, allegations of parental violence, allegations of child sexual abuse by parental figures, and child parental preference), based in part on their assessment of a child's believability.

United States Supreme Court and Juvenile Justice Jurisprudence

The status of children in the legal system has a lengthy history of review in the U.S. Supreme Court. The SCOTUS has consistently held that children are entitled to at least the same due process rights as adults in the legal system. [Table 8.2](#) summarizes the history of major SCOTUS decisions regarding juvenile case law.

Deception and Child Witness Competency

If the volume of case law citations, psychological studies, and theoretical opinions is any indication, the question of competence of child witness testimony has been a popular and controversial topic since the early 1980s (Bruck & Ceci, 1993; Burrows & Powell, 2014; Celik et al., 2018; Hudson & Fivush, 1991; Lamb et al., 1995; Mcelvaney, 2019; Myers, 1995; Saykaly, Crossman, Morris, & Talwar, 2016). Most of these references have been related to children who have been sexual abuse victims and brought into legal proceedings as witnesses. Meyer and Geis (1994) suggested that the voluminous research on children as witnesses has overshadowed the more critical issue of how to detect whether children are lying when they say they have been victimized.

Table 8.2 Key SCOTUS Juvenile Case Law Decisions

Citation	Finding
<i>In re Gault</i> , 387 U.S. 1 (1967)	Children facing delinquency prosecution proceedings have many of the same rights as adults.
<i>Kent v. United States</i> , 383 U.S. 541 (1966)	A juvenile court does not have unrestricted <i>parens patriae</i> power. Decision to waive a child to adult court must first involve basic due process involving a hearing with legal representation and a “statement of reasons” for the decision.
<i>In re Winship</i> , 397 U.S. 358 (1970)	In adjudication of delinquency proceedings, the required standard of proof is the same as with (adult) criminal cases, i.e., beyond a reasonable doubt.
<i>McKeiver v. Pennsylvania</i> , 403 U.S. 528 (1971)	14th Amendment did not guarantee right to trial by jury in juvenile proceedings.
<i>Breed v. Jones</i> , 421 U.S. 519 (1975)	Reaffirmed that due process rights for juvenile delinquents are different from adult criminals.
<i>Roper v. Simmons</i> , 543 U.S. 551 (2005)	Within the meaning of the 8th Amendment, the death penalty is cruel and unusual punishment for juvenile crimes. Juveniles lack maturity, they are more susceptible to negative influences, and their character is not as well formed as adults. Thus, juveniles are more amenable to rehabilitation.
<i>Graham v. Florida</i> , 130 S. Ct. 2011 (2010)	Expanding on the logic of <i>Roper</i> , it is unconstitutional to impose penalty of life imprisonment without possibility of parole on juveniles.
<i>Miller v. Alabama</i> , 567 U.S. Supreme Court (2012)	Continued <i>Roper/Graham</i> reasoning. In homicide crimes, when the only sentencing option is imprisonment without parole, “mitigating factors” must be taken into consideration.
<i>J. D. B. v. North Carolina</i> , 131 S. Ct. 2394 (2011)	Age is a factor to be considered in juvenile understanding of the meaning of being “in custody” as per <i>Miranda</i> circumstances.

Source: Adapted from NDJC (n.d.)

In terms of applied forensic practice, there are two primary issues: the first is the inherent limitations of a child’s reporting and memory; the second is the positive and negative impact of suggestive interviewing techniques (Bruck, Ceci, & Hembrooke, 1998; Burrows & Powell, 2014; Gould & Bell, 2000; Mcelvaney, 2019). Additionally, it is important to recognize that, aside from the fact that the state-of-the-art is not such that one can always accurately detect deception, the ultimate legal question of a witness being credible is the task of the trier of fact, that is, the judge or jury.

In most jurisdictions, there are three essential elements for a child to be a competent witness, the child must understand:

1. The need for telling the truth, as opposed to speaking mistruth (Burton & Strichartz, 1991)
2. The need to recall and relate facts accurately and objectively
3. Being under oath

The assessment of a child's competence to be a witness involves questions about the child's understanding of honesty and lying. The focus is not on the accuracy of memories, the susceptibility of the child to adult influence, or the motives of the child. The focus is on the general capacity of the child to distinguish truth from lies and to subscribe to the importance of truth telling.

Historically, the prevailing assumption was that the mnemonic and communicative abilities of young children were too immature to allow competent testimony. However, as early as the 1800s, the U.S. Supreme Court in *Wheeler v. U.S.* (1895) ruled that young children as a group cannot be declared incompetent, but each child's capacity to testify must be evaluated individually by the court. Under this rule, children are presumed to be incompetent to testify, but that presumption can be overcome in a case by evidence to the contrary. In all jurisdictions, a child under the age of 10 can be allowed to testify if that child knows the difference between a truth and a lie; in some jurisdictions, the child must also have the capacity to recall past incidents (Haugaard et al., 1991). Rule 601 of the Federal Rules of Evidence eliminated the presumption of incompetence of child witnesses and at least 13 states have adopted similar rules (Goodman & Reed, 1986). Under these rules, children are presumed to be competent witnesses unless evidence to the contrary is offered.

Developmental psychologists have demonstrated that children clearly have different conceptions of truth and lying compared with adults. In general, children define lies more broadly than do adults. Below the age of 7, children typically conceive of lies as "bad words," that is, words which can be expected to bring negative reactions from adults. "Naughty" words, swearing, cursing, as well as deliberate untruths, are all regarded as lies. Children 5–7 years old begin to differentiate "bad words" from untrue statements. Inaccurate statements, whether due to ignorance, mistake, or a deliberate intent to mislead, are all categorized as lies. Not until after the age of 7 do children typically consider lies as inaccurate statements intentionally designed to mislead. An inverse relationship is seen between age and viewing lying as always wrong. In terms of consequences, older children see that lying is likely to destroy trust and likely to also instill guilt in the one who deceives. Several studies (Davies, Tarrant, & Flinn, 1989; Goodman & Reed, 1986; Leippe et al., 1991) described children younger than 7 years old to have poorer memories than adults, especially in non-familiar circumstances, but young children also demonstrate weaker memory even when there is prolonged exposure to environmental stimuli. The forensic implication is that, in both casual bystander scenarios and familiar witness scenarios, children will be less competent witnesses than adults.

Memory jogging with 7- to 8-year-olds and 10- to 11-year-olds resulted in significantly improved recall of correct facts (Hayes & Delamothe, 1997). Saywitz et al. (1992) utilized staged tasking and incorporated measures to ensure motivated subject participation (i.e., rewards). The study also involved forensically relevant tasks. An interview based on cognitive psychology principles served as a guided memory search to provide "explicit retrieval strategies, specific retrieval cues, and strategies for organizing information" (p. 746). In a review of studies through the early 1990s, Ceci and Bruck (1993) concluded that the extreme positions of children being summarily not competent as witnesses or being as competent as adults were untenable. This research shows that children can encode and retrieve large amounts of information, especially when it is personally experienced and highly meaningful to them. Equally true, however, is that no good will be served by ignoring that part of research that demonstrates potentially serious social and cognitive hazards to young child witnesses if adults who have access to them attempt to contaminate their memories.

In a study investigating the memory of children and adults over a long interval (i.e., 2 years), children's long-term memory was not associated with decreased accuracy (Poole & White, 1993). The children were, however, susceptible to distortion with repeated and specific questioning. Competence to testify improves gradually with the child's age. Children under the age of 3 years lack the memory and communication ability to be competent witnesses. A child's competency rapidly improves through preschool and early school years, such that by 6 years old, many youngsters will meet competency criteria assuming capable and non-suggestive investigation/evaluation (Lamb et al., 1994). Children who are 4–6 years of age, however, are especially vulnerable to their testimony being prejudiced (Bruck, Ceci, & Hembrooke, 1998; Lepore & SESCO, 1994). The testimony of children this age can be tainted by extraneous social influences (deliberate or nondeliberate), particularly including investigation and interview interactions. The continuous repetition of a child's story of abuse (e.g., in separate interviews with parents, social workers, investigators, psychologists, and attorneys) may reinforce a perceptual experience, which is subsequently recalled in rich, vivid, and convincing detail (Pynoos & Eth, 1984). It is also important to consider the child victim's conditioning history when evaluating the child's recollections of abuse. Past conditioning (e.g., hydrophobia) may explain parts of their reaction to an alleged crime (e.g., "freaking out" when placed into water).

Questions about a child's competence to testify are usually questions about nondeliberate distortion. One who is incapable of recognizing a lie cannot be said to lie deliberately; one who is unable to recall the past cannot be accused of deliberate distortion. Children's perceptions are strongly influenced by input from others, and, accordingly, children are very vulnerable to tainted perceptions and tainted memory that is deliberately or non-deliberately instilled by others. Ackil and Zaragoza (1998) investigated children's susceptibility to forced confabulation. The children viewed a movie clip and then were "forced" to respond to inquiries about an event in the movie clip that did not occur. A week later, first grade, third/fourth grade, and college level subjects all had false memories for details that they were forced to fabricate earlier. Predictably, children were more susceptible to this form of memory tainting than adults.

The U.S. Supreme Court ruling in *Maryland v. Craig* 1990 addressed a major obstacle regarding child sexual abuse victims' testifying as witnesses. Prior to Craig, there was a critical constitutional issue having child sex abuse victims testify in the courtroom, wherein the accused could confront them. By the provisions of the Sixth Amendment, defendants have the right to confront their accuser. The Court ruled that children could testify by closed-circuit television to protect them from the emotional duress of having to face the accused in an open courtroom. The Court's assumption in "shielding" the child witness was that the child would be less emotionally stressed and thereby be able to be more communicative; in this manner, the truth telling objective of the adversarial process would still be served (Montoya, 1995).

No doubt reflecting the spirit of the times regarding testimony from children, several states rapidly incorporated the Craig provisions (Davies & Wescott, 1995). By the end of 1990, videotaped testimony by child witnesses was permitted in 37 states, one-way closed-circuit television was allowed in 24 states, and two-way systems were authorized in 8 states (Small & Melton, 1994). Montoya (1995) critiqued the Craig decision and advocated the position that physical confrontation promotes truth telling and shielding promotes deception.

Myers (1995) decried what he viewed as a “new era of skepticism regarding children’s credibility” (p. 387), which he attributed to three sources:

1. Popular media, which changed in the late 1980s from an advocacy posture to describing child abuse adjudications with characterizations of “climate of hysteria” and “Salem witchcraft trials”
2. Professional literature, which has been biased and misleading irrespective of claims of objectivity (see, especially, Bruck & Ceci, 1993; Ceci & Bruck, 1993)
3. The New Jersey Supreme Court decision in *State v. Michaels* (1994), which held that, under certain conditions, a defendant may request a pretrial hearing to challenge investigatory interviews of child witnesses

Myers’s concerns about the Michaels case casting a disfavorable light on child witness testimony were not supported by Lamb et al. (1995). These authors observed that the testimony of the children witnesses in *State v. Michaels* were so tainted as to be without value to the judicial proceedings, and they lauded the input of an amicus brief by Bruck and Ceci (1993). The brief cited the sources of contamination of the children’s damning testimony.

Are jurors inherently biased by negative stereotypes that a child witness’s testimony is unreliable? Studies surveying adult beliefs have suggested that adults share this pessimistic prejudice (Ross et al., 1991). Luus et al. (1995) conducted a study involving college students judging transcribed testimony by 8-year-old and adult witnesses in response to a videotaped mock crime. They found that there was a stereotyped bias against the child witnesses, but when judges were permitted to view the entire testimony of the children, the judges found them to be as equally confident and believable as the adults. Given the limits of the findings being generalized to an actual courtroom situation, the authors noted that cross-examination of the children did not support the contention that children would succumb to the pressure, such that their perceived confidence or credibility would be compromised. The developmental capacities of that child may affect the credibility of a child’s testimony. Mnestic errors by children may be attributable to several factors. These factors are summarized in [Table 8.3](#).

Assessment Issues—Child Witness Credibility

Once a child has been found legally competent to be a witness, then the issue of the child’s credibility arises. The terms *reliability* and *credibility* are not synonymous, although they can be related in each situation. Written reports can be reliable and accurate, but deemed not credible. Conversely, reports can be inaccurate, but judged to be reliable (Bruck et al., 1998). Credibility refers to the believability the trier of fact places on the child’s testimony. Reliability or consistency refers to the accuracy of a written report.

Do children lie? How accurate is the child’s independent recollection of critical events? How susceptible are the child’s recollections to influence by significant others? How resistant to leading and suggestive questioning are the child’s communications about critical events? The answers to these and related questions determine the weight that a judge or jury should give to the child’s testimony in deciding questions of fact. To begin with, children do lie (Kaplan, 1990; Talwar & Crossman, 2012). Just as with adults, children lie to achieve some personal goal. Children are also very susceptible to lying to help achieve the goal of a significant other, such as a parent.

Table 8.3 Factors Contributing to Mnestic Problems in Children

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1. Neuropsychological maturation is a fundamental determinant in the child's mnestic ability.
 2. The potential for distortion can be attributed to the complex interaction of several developmental processes (Goodman 1984; Lamb et al., 1995).
 3. Children's capacity to store and recall information is less than that of adults.
 4. Children are more accurate in recognition than free recall (Leippe et al., 1991).
 5. Children have more difficulty than adults in retrieving long-term memory events (Brown 1979; Haugaard et al., 1991).
 6. Cognitive interviewing techniques improve children's recall (Hayes & Delamothe 1997; Saywitz et al. 1992).
 7. Children are as accurate as adults in answering objective central questions, but are less accurate than adults in answering suggestive, peripheral questions (Bruck, Ceci, & Hembrooke 1998; Ceci & Bruck 1993; Goodman & Reed 1986).
 8. The presence of a post event interviewer with strong preconceived notions of what happened may "lead" children to alter or supplement their recollections (Lampien & Smith 1995; Lepore & SESCO 1994).
 9. Leading questions in general increase the chances that memory will be distorted (Lamb et al., 1995; Marin et al., 1979; Poole & White 1993).
 10. Post event questions of any kind may distort memory (Ackil & Zaragoza 1998; Cohen & Harnick 1980).
 11. Once a distortion occurs, it appears to be accepted as part of reality and is difficult to change in favor of a more accurate memory of the actual event (Loftus & Davis 1984).
 12. Structured interview protocols may offer standardization of child witness interviews, as well as greater reliability of testimony (Bruck, Ceci, & Hembrooke 1998).
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A novel child competency assessment tool was described by Lyon and Saywitz (1999). The assessment approach involved a series of pictorial figures portraying pairs of male or female child figures looking at commonplace objects (e.g., doll, dog, cookie, and pizza). The subject is instructed that one child figure will tell a lie and the other will tell the truth. A stimulus object depicts the correct object, in cartoon fashion, one child figure is portrayed as "thinking" of the correct figure and the other figure as "thinking of an incorrect figure." The subject is instructed that one figure, "says it's a doll" and the other "says it's a dog." The child is asked to identify which figure has told the "truth" and which the "lie." Later pictures depict social scenes with one child figure telling a lie and the other telling the truth; the child subject is asked which figure is "going to get in trouble." The instrument assesses the child's ability to differentiate truth from a lie and to understand the consequence of telling a lie.

Detection Issues—False Child Abuse Allegations

The assessment of false allegations of child sexual abuse is an ongoing area of attention (Bruck et al., 1998; Lamb, 1994; Lamb et al., 1995; Mikkelsen, Gutheil, & Emens, 1992; O'Donohue et al., 2018; Walker, 1990). Young children readily learn the social and legal powers of sex abuse allegations. Children involved in disputed custody/visitation matters are also very susceptible to psychological forces inducing false sex abuse allegations by a desperate or malicious parental figure (Kaplan, 1990; Myers et al., 1989). Older children can falsify sex abuse allegations to have authorities remove them from parental care (Quinn, 1988).

In sexual abuse cases especially, the notion is that data presented by children exceed their capacity to fabricate. Indeed, this factor is a component of a detection method called criteria-based content analysis (Raskin & Esplin, 1991a). Groth (1980) reported that of 147 children referred for polygraph testing from 1969 to 1974, only one child was found to

have lied regarding sexual abuse episodes. For this reason alone, there is wisdom in forensic clinicians conducting multiple assessment interviews in child sex abuse matters (Duron & Remco, 2018). According to this view, denial of unpleasant experiences by children is regarded as more likely than fabrication. Berliner and Barbiéri (1984) stated regarding sexual victimization: "Our clinical experience indicates that many children who report being assaulted actually underreport the amount and type of abuse; exaggeration is rare" (p. 86). Green (1986) stated in agreement that false denials are common, but that false accusations are rare. False accusations may occur when the child is "brainwashed" by vindictive parents, is projecting his or her own sexual fantasy, or is seeking revenge. Green offered criteria for distinguishing false from real claims of sexual abuse (Table 7.5).

Jones and McGraw (1987) studied 576 reports of child abuse and determined that most of the reports from children were reliable (70%), with only a small proportion being unreliable (8%). Examination of the unreliable reports suggested several commonalities: lack of emotion, detail, and the presence of coercion. In some cases, inappropriate pronouns were used ("they" instead of "I" and "we" instead of "me"). Custody/visitation disputes often trigger false allegations (Trocmé & Bala, 2005). Parents falsely accused the other parent more often than the alleged child victim would so accuse (9 parental complainants out of 21 compared to 5 child complainants out of 21; and 7 complainants of unknown origin). A percentage of both children and adults involved in incidents of child abuse have histories of preexisting post-traumatic stress disorder. Jones and McGraw (1987) observed that the use of explicit detail by an alleged victim with previous post-traumatic stress disorder should be used cautiously as a criterion of truth. The previous trauma may have supplied much detail, which is then substituted for the instant offense. Similarly, Goodwin, Cauthorne, and Rada (1980) reported that all ten of their adopted girl subjects who were caught lying had been physically and emotionally abused in other settings. They lied about their adoptive mothers' dressing them in rags. They were appealing for help and not engaging in malingering or deliberate deception.

Marx (1996) described the problem of child sexual abuse victims' recanting allegations. Recanting is a frequent problem and poses yet another dimension of deception analysis for clinicians (Celik et al., 2018; Summit, 1983). Is the recanting an admission of a false allegation or the result of the child victim succumbing to overwhelming pressure from many sources if the allegation is truthful? Children victims are often exposed to unrelenting interviewing, some of which can be very intimidating. Throughout, the child's credibility is at issue, and this is made very apparent. Often there is familial and social pressure. If, for example, a parent is determined to have committed abuse, then the marital relationship will be significantly impacted; if the offending parent is removed from the home or incarcerated, then there is often financial impact on the family unit, not to mention the long-term impact on the offending/non-offending parent/child relationship.

The assessment of the credibility of child sex abuse victims can be difficult for a variety of reasons, including the child's emotional reaction to the trauma. Reliance by the courts on evaluations of child abuse victims by clinicians has become increasing more commonplace (Walker, 1990). With this trend, there has been ongoing controversy about both the competence and reliability of the child witness and the validity of such evaluations (Bruck et al., 1998; Celik et al., 2018; Davies & Rogers, 2009; Melton & Limber, 1989; Myers, 1991; Powell, 2005). A related and equally complex problem for the forensic clinician is assessment of the juvenile sexual offender (Poirier, 1999b).

Poirier (1991) described the difficulties of assessing disputed custody/visitation matters where even young children become caught up in allegiance conflicts between

parenting figures. The outcomes of disputed custody matters involve high stakes, and this lends to intense emotions between the contesting parental sides. There is no other forensic situation more prone to florid distortion and outright deception. The authors underscore that this observation includes comparison to felony situations, where consequences are extreme and potential penalties are severe. This potential for deception in familial cases poses overwhelming problems for the courts, as well as for involved clinicians. These challenges reflect a continuing growth of courts requesting assistance by mental health clinicians in disputed child custody (Geffner, Shaw, & Crowell, 2018; Bow, 2009). The potential for deception problems in custody matters combined with the demand for involvement of mental health professionals has resulted in ethics complaints against mental health professionals (Bucky & Callan, 2014). This circumstance has become a leading cause of ethical complaints against mental health professionals (Ackerman & Ackerman, 1997, 1999; Ackerman & Pritzl, 2011).

Complaints of child sexual abuse by an opposing parent in disputed custody/visitation matters has unfortunately become a vogue litigation strategy. Such complaints often occur in family situations where there is no prior history of relevant concerns. In some disputed custody matters, it is difficult to discern between the dynamics of children simply struggling to cope with a conflicted marital/family dynamic versus justifications of youngsters malingering an allegiance to one parental side.

Still more recently, the problem of false allegations of child sex abuse in disputed custody matters has encompassed the dynamic of false or distorted allegations of parental violence (Johnston, Roseby, & Kuehnle, 2009; Saunders, 2015). The unassailable assertion is that children are negatively impacted by parental violence in any form (e.g., spouse abuse, sibling abuse, or aggressive behavior), no matter whether the child has been a victim or witness of the purported violence. A generic allegation of parental violence does not capture the same judicial skepticism as allegations of child sexual abuse. Allegations of parental violence are often equally as difficult to substantiate, or refute, as parental sex abuse allegations. The bench can be left with no meaningful alternative, but to reluctantly assume the allegations to be accurate and impose appropriate protective measures. The literature reflects a still growing effort to develop clinical strategies to delve into the problems posed in evaluating disputed child custody matters (Ackerman & Ackerman, 1997, 1999; Keilin & Bloom, 1986). This topic remains an area of forensic practice needing continued empirical work.

Table 8.4 presents questions that the authors have found useful in assessing a child's understanding of lying. Answers to these questions may assist the expert in assessing a child's reliability as a witness. The questions deal with the child's spontaneous definition of lying and understanding of the moral wrongness of lying. They require the child to distinguish between "bad words" and lies. They help determine whether lies are perceived as intrinsically wrong or as wrong because of their consequences. Finally, they pose a moral dilemma for the child (lying to a policeman or disobeying mother), which may be relevant to some cases in which children are asked to be witnesses. Comparable questions may be devised to accommodate facts or scenarios in relevant legal matters.

Forensic analysis of a child's credibility requires assessment of: (1) the reliability of the memory and thinking skills of the child, including the ability to separate fact from fantasy; (2) the ability and inclination of the child to deliberately present falsehoods; (3) the influence of adults (including the examiner) on the child's testimony; and (4) the extent of corroborating data—if there is no corroboration of a child's allegation, there is usually no prosecution of the case (Westcott, 2006).

Table 8.4 Sample Questions for Child Witnesses

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1. Why is it important to tell the truth?
 2. What is a lie? Can you tell me what a lie is?
 3. Why is it naughty to tell a lie?
 4. Is it a lie to call someone a bad name? Is it a lie to call someone a “fool”?
 5. If you tell a lie and then decide you want to change what you said what should you do?
 6. If someone you care about tells a lie, what should you do?
 7. I am going to tell you a story. There were two little boys, and they each broke a cup. The first boy says it was not him. His mother believes him and does not punish him. The second boy says it was not him. But his mother does not believe him and punishes him. Are both boys equally naughty? Which boy is naughtier?
 8. I am going to tell you another story. Two children bought some eggs for their mother. But they played on their way home and broke the eggs. The first child broke 12 eggs; the other child broke only 1 egg. When they got home, they told their mother that a big dog had jumped on them and broke the eggs. Was that telling lies? Were both the lies naughty? Which of these two lies is naughtier?
 9. One day a mother told her little boy, “If anyone knocks on the door, tell them I’m not home. I don’t want to see anyone today.” A little later, a policeman knocks on the door and asks to speak to the mother. The little boy says, “Mama isn’t home.” Did the boy do the right thing? Why? Was it a lie he told? (A big lie or a little lie? Should he be punished for telling the lie?)
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Blau (1986) offered suggestions on enhancing the validity and completeness of later testimony by children in court. These included:

1. Know who talked to the child about the instant offense before you did.
2. Have corroborated facts separated from conjecture prior to your evaluation of the child.
3. Allow free recall without disruption.
4. Use language with which the child is familiar. Be simple and concrete.
5. Find out the child’s mental age and gear questions to the appropriate level and ability.
6. Interview/test in 10- to 15-minute sessions with rest and play in between.
7. The sequence of the questions should be “what,” “who,” “when,” and “where”.

It is not enough simply to ask objective questions of children because such questions can be leading (Burrows & Powell, 2014). Goodman and Reed (1986) distinguished between objective and non-leading and objective and misleading questions. Objective and non-leading questions concern facts about time, place, appearance, and actions (e.g., was there a TV in the room?). Objective and misleading questions involve incorrect facts about time, place, appearance, and actions (e.g., how big was the TV set in the room?). Bruck et al. (1998) offered the following definition, “Suggestive interviews are now conceived of as a complex commingling of motives, threats, and inducements, which may appear in the form of misleading questions, but not always” (p. 141). Goodman and Reed found no differences between children and adults in their responses to objective and non-leading questions, but found a significant effect for age on objective and misleading questions. Children were less likely than adults to disagree with the misleading suggestion or to answer that they did not know.

Conventional psychometric assessment can be useful in documenting a child’s functional capacities and limitations. Information from the current assessment of intellectual functioning, academic achievement levels, neuropsychological performance, and

personality measures can sometimes provide leads for the clinician to evaluate suspicious symptoms and complaints. Unless otherwise available, comprehensive administration of psychometric instruments to children cannot usually be justified based solely on evaluation for family court matters. In selective cases, however, there may be specific questions justifying the use of psychometrics. One example could be a family matter where there is concern about a child who may have “special needs” and parents are disputing that issue, particularly with respect to long-term financial demands of providing for the child.

Summary

The assessment of a child’s competence to be a witness involves the straightforward evaluation of that child’s understanding of truthfulness and of the necessity of telling the truth during the legal proceeding. The focus is on the child’s capacity to reason about truth and deceit and willingness to answer questions honestly. In actual practice, the evaluation of a child’s competence is not always straightforward or uncomplicated. By contrast, the assessment of a child’s credibility as a witness is a more complex endeavor. The assessment of credibility must address the child’s: (1) capacity to recall, recognize, and communicate accurately; (2) capacity to deceive without detection; (3) resistance to the influence of others; and (4) motives for lying. Indications of distortion may be gleaned from: (1) admissions of deception, (2) statements inconsistent with collateral information, (3) evidence of the influence of others in previous interviews, (4) observation of behavioral clues of lying, and (5) psychometric tests of current abilities. The evaluator needs to be flexible in assessing deception in children, using a variety of clinical, observational, and psychometric approaches. Deception cannot be verified until it can be corroborated and cross-validated using multiple sets of data. Once a child cognitively grasps the meaning of deception, the child will then undertake to engage in deceptive behavior. Further empirical unraveling of that developmental process will provide additional clues to the ongoing refinement of the Forensic Distortion Analysis model in its application to both children and adults.

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Introduction

The importance of adolescence as a formative stage of human development was foreshadowed by Freud and brought into prominence by the neoanalysts (Blos, 1962). Deceptive behavior with older children and younger adolescents typically involves targets of peers, parents, and authority figures, such as school staff and local police figures (Salekin, Kubak, & Lee, 2008). As one might predict, youngsters with higher levels of social competence are more effective at perpetrating lies (Feldman, Tomasian, & Coats, 1999; Dennis, 2012). One study (Knox, Zusman, McGinty, & Gescheidler, 2001) found that only 5% of adolescents said they never lied to their parent regarding sensitive questions. The same study found that female adolescents were more likely to be deceptive compared to males regarding questions about sexual activity; opposite gender parents were more often subjects of deception; and that intact homes were more at risk for lying. Respondents still living at home with parents were more likely to lie than those who had left to live away at college. Evans and Lee (2011), employing a neuropsychological assessment, found that the sophistication of early adolescent lying behavior was related to maturation of executive functioning (working memory, inhibitory control, and planning skills). This process occurs by the continuing frontal lobe and continuing right hemisphere maturation of the cortex (Koechlin, 2013).

By virtue of their further maturation, adolescents are more perceptive and shrewder than children, and it is simply not realistic to present adolescents with some of the comparatively simplistic, deception paradigms that were reviewed in the last chapter with children. The ethical issue of confidentiality in research with children is straightforward in that research efforts with children must have the documented, informed consent of parents or guardians. In principle, the issue of confidentiality in research with adolescents is also straightforward; that is, parental/guardian consent is still necessary. In practice, however, the situation with adolescents can be vexing because the parents of adolescents are not always as accessible, as is usually the case with younger children. Ethical problems can arise because adolescents are emancipated and age criteria vary, as do issues of consideration according to variations in local legal provisions (i.e., marriage, access to vehicles, tobacco, and voting privileges). Adolescents often reside in the community as adults. Likewise, they can exercise adult activities whether authorized or not. Research can be complicated by questions of sensitivity to the adolescent's privacy, and the temptation for researchers to employ deceptive strategies to obtain truthful or accurate data (Phillips, 1994). Brink (1995) found that most adolescents and adults (17–44 years old) responding to an anonymous questionnaire regarding sexual behavior stated that they would tell the truth about most items, but that an important minority stated they would not.

As any psychotherapist who works with adolescents can attest, perhaps the most formidable adolescent issue is their characteristic personal sensitivity to being caught up in situations in which they may be deceived, embarrassed, or humiliated. Additionally,

adolescents seeking treatment can be involved in circumstances that fall under mandatory reporting (childhood abuse victimization or perpetration) or report circumstances of potentially dire consequences (suicidal ideation and/or behavior, substance abuse and/or other criminal activity, and formal gang involvement). This important developmental dynamic plays out in the adolescent's behavior at home, in school, and in the community. Such compromised situations of life status can make treatment efforts with adolescents very challenging. For the same reasons, any empirical study exploring deceptive behavior with adolescents, especially young adolescents, is ripe for ethical complaints.

In Western cultures, adolescence is regarded as a tumultuous period of development. The process of leaving the protected period of childhood is scary, but it is compounded by the struggles of becoming autonomous and trying to define future goals. There is the challenge of interacting and competing with peers who are going through the same process. The adolescent must also endure the changes brought on by puberty, complete the difficult time of the academic process, and begin to learn how to function successfully in the community and the workplace. Yet another potent struggle for adolescents is resolving issues of sexual identity and coping in a meaningful fashion with early dating relationships. Risk-taking behavior is another unfortunately common facet of adolescence and carries enormous potential for dire consequences (Eaton et al., 2012).

Target Behaviors—Adolescent Deception Dynamics

Erikson (1963) described the primary developmental hurdle of adolescence as working through a meaningful self-identity, or as Erikson conceptualized it, this was the task of achieving a healthy identity vs. identity diffusion. To the extent the adolescent successfully works toward a meaningful self-identity, there is a sense of positive self-esteem, leading the way to successful maturation to adulthood. The period of adolescence is a challenge of developmental hurdles. The travails of adolescence coupled with the typical sensitivities of adolescents offer many opportunities and temptations to engage in deception.

The target behaviors of deception for the adolescent are intertwined with the developmental hurdles of pubescence and beyond. The adolescent's struggle to achieve and nurture a healthy self-esteem has been described as one prominent factor in the adolescent's use of deception (Lowenstein, 1994). Kashy and DePaulo (1996) reported that undergraduates who told more lies were manipulative and more concerned with social presentation. Those who told fewer lies were more highly socialized and reported higher quality same-sex relationships. A study by Newton and Duda (1993) examined the self-perceived causes of success by adolescents. In response to inquiries about being successful in tennis, both male and females coupled strong ego orientation with success. This was especially true for the males; the female subjects cited the coincident need to de-emphasize external factors to include specifically deceptive tactics.

DePaulo, Kashy, Kirkendol, Wyer, and Epstein (1996) and DePaulo and Kashy (1998) conducted a series of studies with a group of undergraduates and adult community members. The subjects recorded diaries documenting their social interactions and lying behaviors for 1 week. The college students acknowledged telling an average of two lies per day contrasted to one lie per day by the community members. The subjects reported more self-centered lies than other-centered lies except in women dyads, where other-centered lies were more prevalent. The subjects also noted that the lies were usually not planned, and that they did not regard the lies as serious. There was agreement that relationships characterized by lying

behavior were less pleasant and less intimate. The findings reflected that subjects told fewer lies to significant others, and the subjects reported more feelings of discomfort with telling lies to significant others. Lies to significant others also differed qualitatively from lies to acquaintances and strangers. With significant others, lies were more “altruistic” as opposed to self-serving. The study found also that lies to significant others were more likely to be discovered.

Studies of adolescent sexual behavior abound and are all suspect with respect to truthful reporting. Some adolescents will underreport, and still others, typically males, will overreport. As with most forms of deception, the situational context determines usage and form of the distortion. In a situation of competitive male peers, for example, a male adolescent may be inclined to exaggerate sexual activity; the same adolescent interacting with an attractive coed might be inclined to underestimate sexual activity. With parental or other adult figures, the same male adolescent may have still other estimates of sexual activity.

In a series of studies with university students enrolled in a human sexuality class, Knox and colleagues collected self-reported, anonymous data. Male and female subjects reported similar frequencies for intercourse and oral sexual activity. The male and female subjects reported significantly different frequencies for masturbation and numbers of sexual partners (Knox & Schacht, 1992). Of the university students, 92% reported use of lying behavior with potential sexual partners. The most frequent lies were about the number of prior sexual partners (most typically giving a lower number than was accurate), the evaluation of the just occurring sexual interaction, and the extent of the feelings for the current partner (Knox, Schacht, Holt, & Turner, 1993).

Several studies have explored the use of deception by adolescents in dating activities. Peterson (1996) asked adolescent and adult subjects to respond to written scenarios depicting men and women couples engaging in six types of deception (blatant lying, white lies, failed lies, omission, distortion, and half-truths). Relationship satisfaction by all subjects was negatively correlated with subjects' or their partners' use of deception. In a survey study, college students perceived that relationships that were mutually satisfactory (win-win) were more likely to persist, compared with imbalanced (win-lose) relationships; no students felt that mutually unrewarding relationships would continue (Knox, Schacht, Turner, & Norris, 1995). Younger undergraduates (less than 19 years old) were also more likely to believe in “love at first sight,” and that “love conquers all,” compared with older undergraduates (20 years and older) (Knox, Schacht, & Zusman, 1999). Romanticized perceptions by the collegiate respondents were positively correlated with current involvement in a love relationship. Fischer (1996) assessed attitudinal predictors of verbal deception and coercive behavior in dating with college males. The multiracial sample comprised 673 subjects. Only 0.02% of the subjects acknowledged having used threat or force and 25% acknowledged lying to have sex. Four predictors of lying were cited: (1) greater sexual experience, (2) excessive alcohol consumption, (3) greater belief in a woman's token “no,” and (4) greater hostility.

Response Styles

Adolescents are tempted to become involved in deceptive behavior as a natural product of the life challenges of their age. Adolescence is a period when self-esteem burgeons with possibility and at the same time is exquisitely vulnerable. Adolescence is a developmental window for working through a healthy awareness of the potency of human deceptive behavior. It is also a developmental window for acquiring an immature, and in some

instances pathological, style of coping with life challenges through deception. A clinical/forensic assessment must involve the examination of the adolescent's response styles of appreciating, engaging in, and managing deceptive behavior.

In a psychoanalytic case study with abused, adopted adolescents, Wilkinson and Hough (1996) described how clearly unbelievable stories told to a therapist enabled the adolescents to cope with painful and perplexing loss of continuity when the adolescents were removed from their homes. In therapy, the adolescents' lies became "narrative truths" for them. Only sensitive treatment could enable the adolescents to give up the deception and acknowledge the painful truth of their situation.

Adolescents are in a limbo area between childhood and adulthood. They are old enough to work, to drive motor vehicles, to vote, and to join the military. They are not old enough to purchase or consume alcoholic beverages legally. These circumstances lead to the prevalent problem of adolescents utilizing false ID cards and other forms of deception to obtain alcohol (Schwartz, Farrow, Banks, & Giesel, 1998). Unfortunately, such deceptive practice is commonplace and even considered machismo in the adolescent culture. If adolescents are involved in illicit substance abuse, the reliance on deceptive behavior is even more sophisticated and devious (Chait & Perry, 1992; Lather, Vasudeva, & Verma, 1997). In a review of multiple studies, McCann (1998) described an average of 15% of the adolescents were found to malingering psychiatric disorders in mental health settings for a variety of manipulative purposes. Another factor in adolescent proclivity for deception is developmental acquisition of psychopathic character structure (Campbell et al., 2004).

Following are the age level characteristics of adolescents with respect to their awareness and use of deceptive behavior:

Ages 13 to 14

An adult level of resistance to false suggestions is achieved by early adolescence (Ceci & Bruck, 1993, 1995). In terms of nondeliberate distortion, this age group remembered both familiar and unfamiliar faces as well as adults (Chance & Goldstein, 1984). Deliberate distortion is well-entrenched by this age in social and achievement settings and situations. In a study of 46 boys, Mischel and Gilligan (1964) found widespread cheating in a temptation paradigm. In a study with 86 Australian girls of late primary school age, Moore (1995) reported significant use of deception and denial relating to pubertal and menarche status. The subjects described attitudes about menstruation as characterized by embarrassment, discomfort, and ambivalence about growing up.

In a study with religious and secular (public) high school students in grades 9 through 12, Bruggeman and Hart (1996) compared moral reasoning levels and the incidence of lying and cheating. The results reflected a surprisingly high level of dishonest behavior in two high incentive lying and cheating tasks. The two groups of students did not differ in moral reasoning level or in incidence of dishonest behavior.

Ages 15 to 17

At this age, adolescents perceive lying as a significant social problem. Vidoni, Fleming, and Mintz (1983) noted that the 504 eighth graders tested ranked lying in the upper 15th percentile among social problems and viewed lying as being as serious as did teachers and clinicians. Peterson, Peterson, and Seeto (1983) see adults as more lenient than teens in

their moral evaluation of lying. Those of this age group are similar to adults in this respect. In an experimental task, adolescents 15 years and older, as well as adults, were swayed to alter their attitude by perceived combined high status and high power based on whether the subjects functioned as an ordinary subject or as a co-experimenter. Participating as an ordinary subject was defined as connoting low status and low power.

The previous chapter observed that, with children, the level of cognitive sophistication was an important factor in the understanding of deception. In a study with 17-year-olds and adults, Millar and Millar (1997) found that truth bias about a perceived task was more pronounced with low cognitive capacity than with high cognitive capacity. High-cognitive-capacity subjects witnessed a veracity scenario undistracted; low cognitive capacity was determined by subjects' doing math problems as they witnessed the scenario.

As with adults, adolescents are confronted on a daily basis with the opportunity to engage in deceptive behavior (Taylor & Gozna 2011). Especially in interpersonal relationships, adolescents must deal with problems of self-esteem and wanting to be part of their social milieu. Parents and other authority figures must struggle with the throes of an adolescent attempting to achieve maturity, but constantly stumbling with childlike behaviors and strategies in doing so. The temptations to engage in lying and manipulative behaviors are very powerful forces for every teenager. In the ideal, most adolescents work through this period of development in a positive manner. One of the primary dynamics, even in young people who come from wholesome backgrounds in which parenting figures impart strong values, is succumbing to peer influences that tout situational justifications for being less than truthful (Backbier, Hoogsstraten, & Meerum, 1997). In contemporary culture, many adolescents do not satisfactorily resolve the use of deceit to avoid or cover up consequences of poor judgment and misbehavior. This is a primary etiology of adult deception.

Studies have explored how adolescents strive to cope with this truth/deception-choice aspect of their developmental status in day-to-day life; 15% of high school students, 14% of college freshman, and 24% of teenage drug abusers acknowledged use of false ID cards and other forms of deception to purchase alcohol (Schwartz et al., 1998). Like adult co-respondents, adolescents 16 years and older acknowledged the use of "white lies" in intimate relationships. The most frequent justification for using deception was to avoid conflict (Peterson, 1996). Smetana, Villalobos, Tasopoulos-Chan, Gettman, & Campione-Barr (2009) utilized a sorting-task format to question adolescents about lying behavior. When teens were concerned about disapproval from parents, they would avoid disclosure about information the teens viewed as sensitive. Teens who were more disclosing reported better relationships with parents and feeling less depressed. Lying behavior was associated with more parental controls and poorer relationships with father figures. With older adolescents, the capacity for deception is every bit as effective as what can be mustered by adults, although adolescent deception does not have the practiced and experienced quality that can be evident in adults.

Adolescent Offenders and Deception

Legally, most jurisdictions recognize the 18th birthday as the age of majority. In the judicial system, adolescence is not formally recognized as distinct from childhood, although there are isolated exceptions. In many jurisdictions, offenders who are 18 years old and younger are legal juveniles. Violent adolescent offenders and adolescent sexual offenders as groups represent the extreme end of the adolescent continuum with respect to potential for deception.

In the adolescent, the forensic clinician sees both the remnants of childhood naivete and the clear emerging potential of adult-quality capacity for deceptive behavior. Juveniles who commit illegal acts are juvenile delinquents. Juveniles also enter the juvenile judicial system when they are victims of abuse or neglect. Juvenile delinquents and juvenile victims of abuse and neglect offer a fertile bed for concerns regarding credibility, deception, and malingering. Childhood and adolescence are seminal stages of development for understanding and engaging in deceptive behavior. A few youngsters unfortunately leave childhood already adept at patterns of deliberate deception and manipulation. It is in the adolescent stage of maturation where sophisticated adult behaviors that have been existentially introduced in childhood are integrated into the workings of a healthy psyche. Conversely, adolescence can result in ingrained, maladaptive behavior patterns that persist for life. Stouthamer-Loeber (1986) reported widespread deceptive behavior with delinquent youths. Woods (1993) described a sadistic adolescent sex offender with an extensive history of sexual acting out. The adolescent eventually acknowledged deliberate lies and manipulations.

As with children, when adolescents are victims of a life tragedy, society has traditionally tended to adopt a benevolent and protective posture. Juvenile courts were established nationally, beginning in the 1920s, with the recognition that the special legal needs of children and adolescents could not be realistically met in the adult court. For many years, juvenile courts pursued a philosophy of rehabilitation of juvenile offenders as contrasted to a punitive philosophy. These social standards were extended to adolescent offenders until the early 1990s, when crime statistics began to reflect alarming trends of youth being involved in increasingly serious crimes at increasingly younger ages (Browning, Huizinga, Loeber, & Thornberry, 1999). These trends gradually resulted in harsher approaches with adolescent offenders (Poirier, 1998). According to National Institute of Justice statistics, there has been a modest, but consistent drop in the national average of serious crime for all age groups each year since 1995 (Poirier, 1998). Nonetheless, the problem of serious crime by youngsters has captured public outcry and political momentum. Local and federal courts are exploring alternative legal definitions of chronic and serious juvenile offenders and looking to impose more substantive sentencing dispositions.

In some jurisdictions, involvement in serious/violent criminal matters can result in juveniles being automatically tried as adults (Griffin, Torbet, & Szymanski, 1998; Papp, 2018). Some jurisdictions have provisions for these juveniles being waived back to juvenile court for further review and consideration as to whether the offender's disposition will be more meaningfully met being tried as an adult or as a juvenile. Being tried as an adult involves adjudication in the adult judicial system, where the normative considerations are "punishment" and "protection of the community." In juvenile courts, the normative considerations are more oriented to "management" and "rehabilitation." In the adult criminal courts, sentences are harsher and lengthier and, as applicable, involve being remanded to adult correctional facilities; follow-up monitoring is then with the adult parole and probation services.

A significant volume of pre-teenage involvement in criminal activity is related to youth gangs. Data reflect that youngster involvement with gangs significantly increases the likelihood of involvement in serious crime (Battin-Person, Thornberry, Hawkins, & Krohn, 1998; Browning, Thornberry, & Porter, 1999; Howell & Decker, 1999; Moore & Terrett, 1998, 1999). An estimated one half of serious crime committed by juveniles involves youth gangs (Poirier, 1998). Prevalence data reflect boys to be significantly more involved in violent crime compared with girls (Kelley, Huizinga, Thornberry, & Loeber, 1997). For the

years of age 12 to 15, however, girls come closer to the serious violence rate of boys. All types of violent juvenile crime involve the likelihood of deception. Juvenile perpetrators will deny their own complicity in offenses. As with adult gang crime, youthful gang activity will usually mean that youthful offenders will be less than truthful about the involvement of gang peers.

The probability of deception with an adolescent offender exists in direct proportion to the adolescent's history of acting-out behavior and delinquent acts. A repetitive history of asocial behavior, by definition, encompasses a pattern of escalating reliance on deceptive and exploitive behavior with others. Adolescence can be the last critical period for interrupting what can become a lifetime cycle of anti-social behavior.

Cultural taboos regarding inappropriate sexual behavior are pervasive and powerful social forces across the lifespan. Forensic clinicians will encounter potent challenges in attempting to unravel deception with juvenile sexual offenders. These taboos are particularly powerful when children are the victims of inappropriate sexual behavior. Taboo dynamics impose powerful incentives for deception. Most juvenile sexual offenders are male (90+%) and the modal age is 14 years (Ryan, 1991; Veneziano & Veneziano, 2002). Juvenile sexual offenders will characteristically deny any complicity, even in the face of overwhelming evidence. They will also be strongly supported in these denials by family members. In incest circumstances, the taboo dynamics are even more commanding. A juvenile sex offender who denies complicity will not be responsive to intervention, nor will the family.

Historically, society has struggled with the problem of inappropriate sexual behavior when the victim(s) and the perpetrators(s) are minors. "Experimental" sexual behavior among children and adolescents, while frowned upon, did not receive attention from the public or the judicial system. Beginning in the late 1960s, society began to adopt a more strident posture with the problem of juvenile sexual offenders (Marshall, 1996; Poirier, 1999; Ryan & Lane, 1997). The rapid progression of juvenile substance abuse, the parallel progression of increasingly violent behavior by juveniles, and society's increasing attention to child sex abuse victims were significant factors in recognition of the problem of juvenile sexual offenders.

Statistics documenting the prevalence of juvenile sex offenses vary widely. Barbaree, Hudson, and Seto (1993) summarized that the best available data suggested that 20% of all rapes and 40% of child sexual abuse were perpetrated by adolescent males. The same authors noted a high incidence (approximately 50%) of adult male sexual offenders who began their sexual offending in adolescence. It is important to recognize that the label of juvenile sexual offender is not a clinical notion, but rather a legal concept. The juvenile sexual offender is a youngster who commits a sexual offense. As with adult offenders, the range of juvenile sex offenses covers a wide variety of behaviors and can involve a multitude of comorbid factors, such as family dysfunction, substance abuse, psychiatric disorder, and aggressive behavior. Similarly, the offense circumstances can encompass many scenarios and many types of victims.

Clinicians working with juvenile sexual offenders must have a thorough grounding in child/adolescent clinical work, a working familiarity with the judicial system, and expertise with the vagaries of the adversarial process. Varieties of effective intervention strategies have been developed for working with juvenile sexual offenders and their victims, as well as affected family members. These strategies have encompassed public education, identification and investigation methods, adjudication procedures, clinical

assessment, and clinical treatment modalities. Unique to the problem of juvenile sex offenders has been the creation of collaboration models among police authorities, social work investigators, judicial authorities, juvenile service workers, and a wide variety of direct service clinicians.

It is too simplistic to conceptualize the problem of juvenile sex offending in traditional clinical terms. Intervention from prevention through identification, assessment, treatment, and follow-up must incorporate an understanding of the cultural taboo that surrounds the problem of sexual offenses. The cultural taboo phenomenon affects every aspect of approaching the problem. Sometimes the impact is very subtle, sometimes the impact is very overt, but it is always pervasive. In terms of developing effective intervention plans, the investigation/evaluation process is critical. A major concern with juvenile sex offenders is the established chronicity of the pedophile sexual abuse cycle (Lane, 1991). If the juvenile sexual offender persists in denial and deception, then no intervention will be worthwhile, and there is a high probability of abuse occurring and reoccurring.

Adolescents and Disputed Domestic Matters

Adolescents are just as prone as children to being caught up as witnesses in disputed domestic adjudication matters. Drawn by intense emotions, adolescents will establish an allegiance with one parent over the other, often based on justifications other than parental fitness. Disturbed family dynamics only exacerbate usual and expected turmoil in parent/adolescent relationships. Adolescents also rely on relationships with parenting figures to work through issues of role model, sexual identity, and differential male/female personality attributes and values. A rare adolescent can put aside all these issues and assume an objective posture regarding concerns of parental fitness. In actual practice, the issue of witnessing by adolescents in disputed custody/visitation matters is sometimes moot because of the parent's status. That is, a parent has engaged in untoward behavior that has compromised the children's welfare, or the parent presents with mitigating circumstances, such as serious mental or physical illness. The courts frequently ask forensic clinicians to assess preferences of adolescents regarding parental figures. These assessments require a thoughtful approach. Evaluation of disputed domestic matters is a minefield of ethical issues for the clinician. These issues include complex questions of confidentiality, dual relationships, and professional boundaries (Poirier, 1991).

Detection Strategies

Deceptive behavior with all age groups is a function of situational variables that affect possible outcomes for the actor. The higher the motivation to achieve or avoid a specific outcome, the greater the likelihood of deception. When engaging in deceptive behavior, the majority of adolescents presents with less naivete and simplicity compared with children, but with less sophistication compared with adults. A conventional clinical interview is not very useful with young children, but with caution can be utilized with adolescents. The clinician must attenuate the use of clinical procedures with the developmental needs of the patient. Most adolescents can meaningfully engage in the usual verbal repartee of

an interview format. Garnering the interest, trust, and meaningful cooperation of the adolescent is an entirely separate challenge.

Most adults, including those who are court-involved or court-referred will approach clinical interviews with a serious and concerned attitude. Adolescents generally do not offer the clinician such luxury of self-motivated cooperation and concern. One way to maximize adolescent motivation in forensic assessments is to include a “family assessment” component in the evaluation. Adolescents, especially those who are court-involved, will frequently challenge the clinical assessment with attitudinal issues of testiness, defiance, belligerence, uncooperativeness, indifference, and the like.

There are several structured interview formats available for conducting a diagnostic/forensic assessment with the adolescent. McCann (1998) summarized the usefulness of structured interview instruments noting the limited validation studies of the instruments for adolescents. Given the validity concerns, McCann suggested the use of these instruments as *collaborative* as opposed to *definitive* assessment tools. The Structured Interview of Reported Symptoms (SIRS; Rogers, Bagby, & Dickens, 1992) has modified cut-offs for adolescents (Rogers, Hinds, & Sewell, 1996). McCann also suggested the Psychopathy Checklist-Revised (Hare, 1980, 1991). The Psychopathy Checklist-Revised is not a deception instrument, but may be useful in gathering pertinent data about the adolescent to assist with making a clinical determination regarding deception. A primary disadvantage with the Psychopathy Checklist-Revised is the lengthy period of time required for proper administration and scoring.

The attraction of psychometrics as a reliable approach to detecting deception and malingering extends to the adolescent population. Adolescent offenders can be very vexing to the juvenile justice system, leading to an unbridled acceptance of psychometric data. Psychometrics carry an aura of objectivity and validity to the unsophisticated that is rarely warranted. Forensic clinicians must be appropriately wary and utilize the multifaceted evaluation approach advocated throughout this book.

A mainstay objective personality test for adolescents is the Minnesota Multiphasic Personality Inventory-Adolescent (MMPI-A; Archer, Maruish, & Imhof, 1991). The MMPI-A is a derivative of the MMPI and has benefited from the reputation of its parent MMPI as a useful forensic tool (Pope, Butcher, & Seelen, 2000). The MMPI-A requires a seventh-grade reading level and has been normed for 14- to 18-year-olds. It is a very useful instrument for assessing deception and malingering because, like its predecessor the MMPI, it has several validity and response style scales.

Adolescent deception was investigated comparatively with the MMPI-A, SIRS, and the Screening Index of Malingered Symptoms (Rogers, Hinds, & Sewell, 1996). In this study, the commonly used MMPI-A scales of F, FI, and F2 were not found to be effective. The F-K >20 index, however, was an effective discriminant measure. Utilizing adult criteria cut-offs, the SIRS yielded moderate positive predictive effectiveness and excellent negative predictive power. As a screen, the Screening Index of Malingered Symptoms was moderately effective. A two-stage discriminant analysis offered support for the incremental validity of a combined SIRS and MMPI-2 evaluation of adolescent feigning.

Also of general use with adolescents is the Millon Adolescent Clinical Inventory (Millon & Davis, 1993). McCann (1998) described four Modifier Indices on the Millon Adolescent Clinical Inventory that are pertinent to the assessment of deception and malingering. These self-report style scales are Reliability (V), Disclosure (X), Desirability (Y), and Debasement (Z). McCann noted that the Millon Adolescent Clinical Inventory

Modifier indices have limited empirical validation to date and, therefore, should be used with appropriate caution. The specific use of the Millon scales in forensic matters, however, remains in question.

The significant limitations of direct measures of deception and malingering on psychological tests, combined with characteristic adolescent guardedness, require clinicians to rely adroitly on assessment information beyond the instrument data itself. Grisso (1998) noted that clinician observations of subject's behavior during the administration of psychological testing can be very useful in assessing malingering. The Rorschach inkblot technique offers another example of an instrument that has limited, direct forensic validity, but affords interactive opportunity between examiner and examinee that can be helpful in terms of generating useful interactional data with a perplexing adolescent. Unlike the pen and pencil self-administering objective instruments, the Rorschach technique requires an extended period of examiner/examinee interaction that can produce worthwhile data regarding the adolescent's demeanor and social style.

When the formalized administration rules are adhered to, the Exner Rorschach system provides this structured interaction. During forensic assessment, many adolescents evidence a defensive style that can be accompanied by misleading response style and affect. Some adults, when caught up in the stress of a forensic assessment, will also display such avoidant or hysterical defensive styles, but it is characteristic of many adolescents under the stress of a forensic assessment. Clinicians who are attuned to the vagaries of adolescence can incorporate these dynamics into the forensic examination.

Adolescents involved in serious juvenile justice matters will sometimes dramatically and tellingly react to the loose structure of the Rorschach format. This occurs in the absence of any prior history of psychopathology. Adolescent Rorschach productions can be extreme, atypical, and sometimes accompanied by raw affective responses that are not otherwise evidenced, for example, during clinical interviewing. When confronted with such discrepancies in their performance, adolescents will often acknowledge deviant responding. Stymied adolescents will suggest that they misunderstood the original instructions, that they had a sudden urge to indulge a creative whim, or similar explanation. Such seemingly minute miscues can be invaluable sources of further inquiry for the astute clinician.

The foregoing situations offer very subtle clinical data that must be carefully integrated into the assessment findings. No assessment opinion of whether or not an adolescent is malingering would ever rest solely on such encapsulated behaviors. Forensic work with adolescents can be very difficult, and the clinician must rely on whatever resources are available and useful.

With adolescent sexual offenders, cultural sexual taboos generate considerable motivation for denial, collusion, and deception. This sophisticated potential for deception exists with the adolescent offender and for that matter also with family members of the adolescent who become caught up in the adolescent's web of deception. Likewise, the adolescent's sophistication in terms of potential for deception will in some instances extend also to professionals who are collaterally involved in assessment and management of the matter. Assessment of the juvenile sexual offender must incorporate a comprehensive review of developmental and familial factors. These include the usual array of clinical issues, and, in addition, there should be a comprehensive review of the perpetrator's history for any victimization of the perpetrator, substance abuse, impulsivity, aggression, and prior offenses. There must also be a thorough review of the perpetrator's psychosexual history; collaborating this history can become a very sensitive pursuit, and the evaluator must employ considerable discretion.

Varieties of assessment tools for juvenile sex offenders have been described. These instruments range from traditionally available psychological tests such as the 16PF (Grossman, Haywood, & Wasylw, 1992), the Beck Depression Inventory (Becker, Kaplan, Tenke, & Tartaglino, 1991), the Jesness Inventory (Oliver, Hall, & Neuhaus, 1993), and the MMPI (Grossman et al., 1992; Lanyon, 1993). The literature also reports newly developed instruments including self-report inventories, such as the Adolescent Sexual Interest Card Sort, the Adolescent Cognition Scale, and the Multiphasic Sex Inventory (Bourke & Donohue, 1996). Investigators have also devised follow-up questionnaires for offenders who have completed treatment (Bremer, 1992).

The perils of assessment with adolescents were offered in a study of adolescents faking believable deficits during neuropsychological evaluation. Guilmette and Arkes (1988) found that three adolescents (15–17 years old) were able to fool all 60 neuropsychologists when instructed to fake brain damage. None of the evaluators detected malingering. On an even more disheartening note, the neuropsychologists appeared overconfident in their judgments.

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Introduction

Forensic evaluation regarding the elderly population presents with unique challenges for the forensic clinician (Soliman & Resnick, 2018). The age that marks the beginning of the elder years is a topic of discussion. The authors have arbitrarily adopted the definitional age of 65 years and older, recognizing that many people achieve this age, and much older, without any significant change in physical or psychological impairment. For the purposes of our study of deception, developmental and environmental factors associated with late adulthood are of more interest than is the issue of specific chronological age. There are special aspects of the capacity of elderly people to be perpetrators and/or victims of deceptive behavior (Candilis, Leong, & Weinstock, 2018). An important and not to be forgotten aspect of forensic evaluation of the elderly are cultural factors (Lee & Lee, 2018).

Although the elderly population fall at the opposite end of the human developmental continuum from children, both populations can present with similarities with respect to vulnerability to deception. Both populations can perpetrate deception, and both can be victimized by deception in particular ways related to the vicissitudes of their chronological ages. At different time periods, there are popular and vogue forms of exploitation that affect children and the elderly (e.g., child neglect and abuse, child workplace violations, elder abuse and neglect, and elder financial exploitation). The variety, form, and manner of these exploitative practices are on the one hand an impressive measure of human creativity, but they all are also forms of harmful deception. Many of these practices are also illegal. This chapter regarding the elderly population offers a final backdrop to our study of developmental themes and deception.

The legal profession has long recognized the concept of “undue influence” and its applicability to vulnerable populations (Hall, Hall, & Chapman, 2005; Quinn, 2000). The legal concept of *undue influence* is always a form of deception. The issue of undue influence is an embedded principal of consideration in many legal circumstances (Rabiner, Brown, & O’Keeffe, 2004). We addressed various issues associated with the exploitation of children in [Chapter 6](#). In this chapter, we focus on the issue of elderly exploitation.

A primary form of elder abuse is financial exploitation. In 2016, Congress reauthorized the latest update of the Older Americans Act of 1965, which in part addressed concerns regarding elderly financial exploitation (<https://www.congress.gov/bill/114th-congress/senate-bill/192>). Exploitation of the elderly is problematic because acts of exploitation are not as readily reported by authorities and others as they are with child abuse/neglect. Also, complicating the reporting of elderly abuse is the elderly’s legal status as adults and presumed competence.

In general, there are two specific areas of “undue influence” circumstances that forensic clinicians encounter in evaluations of the elderly. These are circumstances of testamentary capacity and circumstances of the elderly being scammed into various forms of financial contracts. Forensic clinicians are often called upon to assist with the evaluation

of testamentary capacity (i.e., ability to competently make a will) of an elderly person. Testamentary capacity circumstances can involve issues of deception by the elderly person, by family members, and by involved professionals. The usual driving intention is greed regarding property and inheritances. Preparation of wills and testaments can be manipulated and altered by relatives and unscrupulous attorneys.

Case example—Grandfather P.: Grandfather P. died from natural causes at the age of 86. He was a fourth-generation immigrant from France. As a teenager, he relocated from upper Canada to a metropolitan New England area, where he met up with and married a former girlfriend from Canada. Both grandparents had minimal educations, and at the time of the marriage, neither spoke English; the first language of both was French Canadian. Both grandparents were also illiterate. The grandfather was a carpenter, a trade he had learned from his father. Over the years, the couple had five children, and at the time of the grandfather's death, he and the grandmother owned a home, and their net worth was a combined several hundred thousand dollars. Ten years prior to the grandfather's death, his oldest son had died from a childhood illness-related cardiac problem. The son had four children.

There was agreement among the family members that the grandparents had been excellent parents, and there was agreement that the eldest deceased son had been the grandfather's favorite. There were several historical events that had contributed to the strong bond between the grandfather and his eldest son. Following the grandfather's death, there was surprise among the family members that the grandfather had an end-of-life change of heart and had uncharacteristically changed his will so that the eldest son was written out of the grandfather's will. A forensic evaluator appointed by the court questioned the change in the will with four involved attorneys. A review of the will documentation indicated that two months prior to the grandfather's death, there was a codicil to the will, which removed the eldest son and his family from being beneficiaries. Further investigation indicated that the codicil had been implemented by the second eldest son on behalf of the grandfather. That son could not explain why the grandfather had even raised the issue at a time when his health was clearly failing. Further, that son could not explain how the grandfather could have read and understood the codicil when the grandfather was illiterate, and that the codicil was signed with an "X." The forensic evaluator strongly pointed out the discrepancy in a written report, but a reviewing judge ruled that because there was a lack of any documented mental status evaluation regarding Grandfather P. at the time of the codicil being implemented, the otherwise available evidence was too inconclusive with respect to any judicial intervention.

Assuming that the concerns of the forensic evaluator were accurate, and assuming that the will of Grandfather P. was a falsified misrepresentation of Grandfather P's wishes, the matter was a sad example of the level of acrimony and deception that can encompass testamentary capacity matters.

Another forensic application of deception with the elderly people regards their vulnerability to cons and scams. This can be a problem for the elderly who reside independently in the community, but is more common with those who reside in assisted-care and/or nursing home placements. A typical scenario is for a con artist to create some type of ruse prompting the elderly person to access financial holdings. The schemers, again, can be relatives or professionals involved with the elderly. Telemarketers ply the isolation and loneliness of elderly people with initially friendly and solicitous telephone conversation. Telemarketers can be cleverly deceptive. The scam themes can include the promise of rewards of large sums of monies from the estates of a distant, deceased relative, or a benevolent religious figure. In the interim, small upfront sums are necessary to conduct

further inquiry. The schemes progress to require unending, upfront, good-faith deposits. In the end, the aggressive marketing results in nothing or in ventures or products of no use to the elderly victim. The schemes can be varied and ingenious (Sapra, 2019; Shulman, 2007). Singer (1992) described six strategic elements utilized by perpetrators to effect these bogus contractual arrangements:

1. Foster a sense of isolation
2. Encourage a menacing siege mentality
3. Induce dependence
4. Promote a shroud of powerlessness
5. Ply fear and vulnerability
6. Avoid subject's awareness of the false reality that is created

Crime statistics reflect that elderly people commit a small number of serious crimes. Exceptions to this are crimes of elder abuse and elder neglect, which, surprisingly, are perpetrated primarily by elderly spouses (Poirier, 1996). When elderly people are involved in serious crimes, the issues regarding deception are like those with all adults, but there is the added possible clinical issue of aging having a possible negative impact on cognitive and memory functioning.

Like all sectors of the population, there is an affluent segment of the elderly. For the non-affluent, however, retirement means lower income and more restricted access to social benefit programs. The situation results in the elderly struggling to maintain prior levels of economic standards that in turn result in deceptive practices. To maintain the expected standards of living, many elderly people resort to deceptive behavior. This segment of the elderly population will engage in deceit, misrepresentation, and cheating. This may be an exaggeration of an earlier lifestyle practice. The elderly can falsify information, such as actual age, disability status, and financial means. A common example occurs with misrepresentation on income tax filings to maintain resources.

The human aging process results in predictable changes in cognitive and volitional functioning. The timing and extent of these changes are not predictable on an individual basis. Neurobehavioral decline occurs as a function of normal aging, and secondary to head trauma and illnesses (e.g., cerebrovascular accident, endocrine-based illnesses, dementia maladies, etc.). Organs and organ systems inevitably begin to succumb to age, the circulatory and neurological systems are especially vulnerable. Dementia in one form or another is a common issue, as is generalized less efficient memory function.

A number of environmental variables have been associated with healthy and content lifestyles for elderly people. Being in good physical health and being married are two established positive factors (Rapkin & Fischer, 1992). Being widowed or having struggled with long-standing disadvantages in education, job status, and socioeconomic achievement are negative factors associated with the healthy psychological status of elderly people. These same factors can be psychological inducements to distortion, fabrication, and deception with the older person.

Elderly people are more sensitive to poverty and crime in their community. Because of their age and related declines in strength and mobility, crime becomes more of a concern and more worrisome to them. Depending on the elderly person's/couple's life circumstances, poverty becomes a real and looming concern. Stories have been written and movies made about these strident themes in the lives of elderly people.

Social stereotypes of the elderly population are many (for a review, see Hummert, 1990), and there are cross-cultural variations. Younger people can be impatient and intolerant with concerns of the elderly. Compared with the interests and goals of younger segments of the population, the complaints of elderly people are frequently viewed as trivial and insignificant. Such intolerance with the concerns of elderly people only accentuates the elderly's self-perception of being useless and lonely.

Most of the elder population who enter healthcare channels do so because of physical health problems. Research has demonstrated a high incidence of comorbid depression associated with elders involved in primary care. The estimates of comorbid syndromal depression in elderly people vary from 15% to 45% (Rapp, Smith, & Britt, 1990). Comorbid depression is also known to increase the risk of further medical morbidity (Williamson & Schultz, 1992). Depression in the elderly person is frequently undetected, and this problem involves a multitude of factors. One obvious issue is the lack of proper training for those who work with elderly people to be alert for subtle depressive symptoms. There are also patient-generated factors. Williamson and Schultz noted the role of psychosocial variables affecting the self-report of complaints of depression by elderly people. Motivated by concerns about financial status, feelings of control and self-worth, and the usual desire to be able to continue to live in the community, the elderly person will minimize or deny the presence of depressive symptoms.

An important application of deception dynamics with the elderly population involves healthcare personnel who work with terminally ill elderly persons, and who must make decisions whether to advise patients of their actual health status. A variety of issues come into play, including the personal philosophies of the healthcare providers, and their interpretations of ethical principles. Tuckett (1998) conducted a study of nurses' strategies about informing patients of foreboding physical health issues. The strategies ranged from telling the "truth," to "titrating" information, to altogether withholding information.

Target Behaviors

In general, the elderly person is just as capable of engaging in deception as any younger person. Elderly people can be actor-deceivers in any of the activities described in the chapters of this book. A majority of the elderly population enter retirement years on fixed incomes. They must use their resources discreetly and resourcefully. Because of these circumstances, there are a significant number of elderly people who resort to minor criminal activity (e.g., theft, shoplifting, trespassing, and embezzlement) as a means of survival. Subgroups among these offenders include elderly "street persons" and/or the unhospitalized elderly mentally ill person. Forensic clinicians who work for local courts will encounter members of these latter two groups on a regular basis. The usual referral questions are testamentary competency, competence to stand trial, criminal responsibility, and dispositional recommendations.

Evaluation of the elderly people poses unique challenges both to the court and to the clinician. Dispositional recommendations must be based on a compassionate review of the elderly defendant's circumstances and availability of resources. Clinicians can make valuable interventions by knowing community resources and effecting appropriate referrals. The common problem is that resources for the elderly population are often limited and restrictive as to access.

Elderly people who are of means present another array of forensic circumstances involving deception. As time goes on and the likelihood of estate settlement becomes

more imminent, beneficiaries will begin to posture. There will be innuendo or accusations of incompetence to manage their affairs currently or to make a proper will. Civil court actions follow, and forensic clinicians are often asked to conduct assessments to provide guidance to the bench.

Response Patterns

For the forensic clinician, the elderly person can present with an unnerving mixture of “fake bad” and “fake good” response patterns. The forensic assessments may involve elderly persons in criminal, civil, or domestic legal matters. The most challenging forensic scenarios involve elderly people who are present with cognitive or memory impairments. Such impairments invoke concerns regarding competency, and assuming competency, there will be questions regarding distortion being deliberate or nondeliberate.

Detection Strategies

Old age is accompanied by cognitive decline that is sometimes apparent and heartrending to the patient and to the family. The functional capacities of elderly persons, who in their younger years were bright, educated, and accomplished, can be devastated by the maladies associated with the aging process. One example is patients with various forms of arterial vascular stroke, who can suffer a wide range of physical and cognitive impairments. Patients with Alzheimer’s disease are even more striking examples because of the slow, progressive, and inevitable clinical course.

Many elderly people with early-stage dementia typically have awareness of their progressive cognitive loss. That awareness is frightening and depressing. At some point, the family or other involved caretakers have no choice but to intervene and initiate legal steps to have the patient declared incompetent. In some situations, the need is to protect the patient from self-inflicted harm. In other circumstances, the need is to protect someone dependent on the patient, such as a child or elderly spouse; another scenario is the endangered welfare of a pet.

The courts will ask forensic clinicians to assess the *testamentary capacity* of an elderly person. Testamentary capacity is a legal concept and refers to having the cognitive ability to manage personal affairs meaningfully, particularly financial affairs. The usual application of testamentary capacity is the ability to assist in the preparation of a will and to attest to its accuracy. In the Grandfather P. case, the example at the beginning of this chapter, we described one scenario. The following case example was another assessment circumstance with a different outcome. Both examples highlight the analysis of distortions illustrating the essential concept of FDA-5 for the forensic evaluator:

Case of Mrs. Green: A number of years ago, one of the authors (JGP) was contacted by a circuit court judge who indicated that he was hearing a matter involving the testamentary capacity of a 74-year-old woman who was residing in a nursing home. Prior to entering the nursing home, Mrs. Green had prepared a will leaving her substantial estate to her two daughters. A son, who was in his late 40s, would receive a token “dollar” benefit. The judge instructed, “I would like you to do all those tests that you do because this is going to be a very contested matter when it enters trial and there is no doubt that it is going to trial.”

The son was contesting his mother's mental competence at the time of signing her will. The son and his attorneys asserted that Mrs. Green had experienced a series of cerebrovascular accidents that had rendered her not only physically disabled, but also mentally incompetent. The current will had been prepared following Mrs. Green's second stroke, and shortly after she entered the nursing home. According to the son, his mother had regressed mentally and presently had the "mind of a child."

One evening 2 weeks later, we went to the nursing home prepared to conduct the evaluation to likely include the administration of a battery of cognitive and neuropsychological instruments. As we entered the front lobby and introduced ourselves to a receptionist who was aware of our pending visit, a gentleman quickly approached and introduced himself as Mrs. Green's son. Mr. Green was in his late 40s, but he presented with decidedly weathered features; he appeared to be in his mid-50s. He was uncomfortably attired in a shirt and tie; his clothing was worn, unclean, and ill kept. Mr. Green's hygiene was also less than adequate.

Mr. Green expressed his good fortune in coincidentally being in the waiting room and recognizing our names when we spoke to the receptionist. Mr. Green advised that he visited his mother regularly because he was concerned with her welfare. He made no mention of contesting his mother's mental abilities. Mr. Green did note that he and his attorney would cooperate in whatever way possible.

We proceeded to the nursing station to review Mrs. Green's medical chart. The essential history was confirmed. Most recently, Mrs. Green was described as having episodes of an apparent personality change in which she would occasionally behave in a childlike manner. She had a panoply of physical health problems, but now, 2 years later since her third and last stroke, the records described that most of the time she was mentally alert, cooperative, and friendly. From the nursing notes, it was clear that the nursing staff well liked Mrs. Green.

As we were reading the clinical record, a charge nurse introduced herself. The nurse reported that she had become concerned on Mrs. Green's behalf. Her concern was that Mrs. Green would always be upset with the recently occurring daily visits from her son. Mr. Green had suddenly begun to visit his mother on a regular basis, after having visited on only two or three prior occasions of the nearly 2 years of Mrs. Green's stay in the nursing home. The nurse related that for the preceding 2 weeks (i.e., coinciding with the court order for the current assessment), Mr. Green would arrive each evening at approximately 5:30 p.m. He would go to his mother's room for approximately 1 or 2 minutes, and then proceed to the waiting room area, where he would remain for usually up to 2.5 hours. The nurse stated that on several of these visits, staff reported that Mr. Green evidenced the odor of alcohol, but he had never presented as being obviously intoxicated in his overt behavior.

We found Mrs. Green asleep in her bed. She awoke with a smile and initially interacted in a "little girl" manner; she was coy, deferring to the examiner, and she spoke in a soft, childlike voice. We explained to Mrs. Green the purpose of the visit. During the next 10 minutes, Mrs. Green asked four times who we were and why we were visiting her. During this discussion, she repeatedly observed the remaining food on her dinner tray; we offered to open a plastic dessert carton. She observed our activity carefully. She asked if we would open another small carton and place the whipped cream on her jello, which we proceeded to do. We then attempted to feed her. She smiled, abruptly took the spoon, and commented, "That's all you need to do, Mister. I can feed myself, thank you very much."

Mrs. Green's behavior suddenly became serious and intense. She questioned, once more, why we had come to see her. We explained the circuit court order and provided her with a copy; and we explained the fact that we would prepare a written report. We elected to proceed with the administration of the verbal subtests from an intelligence scale (Wexler Adult Intelligence Scale [WAIS]). Mrs. Green performed capably throughout and, in the end, achieved intellectual functioning in the near superior range. Her level of performance was consistent across the subtests.

Mrs. Green became progressively more relaxed, brighter in her disposition, and more interactive. Midway through the cognitive testing, she stated, "Can I say something?" We paused with the testing and invited Mrs. Green to speak her mind. Mrs. Green expressed, "I know why you're here. It is all about my son. I want you to go back and tell the judge that my will is exactly the way I want it. My daughters have always been the ones to take care of me since my husband died. After my first stroke, my eldest daughter took me in. She, her husband, and her children have been very good to me. Before my husband died, he tried to help my son grow up. My son has a problem with alcohol. Over the years he has terrorized my entire family. I am still afraid of him. He has been coming here every night for the past couple of weeks. I am sure it is because he knew you were coming. Before my husband died, he gave my son two pieces of property that he still owns. I insisted that my husband put the properties in trust so that he cannot sell them until he is 65. I think that is what he is living off, but he has never really worked. Whatever money he gets, he takes to drink and to gambling. I gave a lot of thought to my will and my attorney followed my instructions. I do not want that changed."

Mrs. Green expressed that since incurring her disabilities, she was frightened by her son's temper. When she first entered the nursing home, her son had visited her briefly and verbally intimidated her about changing her will. Mrs. Green expressed that she had learned to feign incompetence by assuming a childlike bearing with her son to avoid his unpredictable wrath, which was usually coincident with his having consumed alcohol. She stated that she also feigned incompetence with her son's attorneys and with anyone she suspected to be involved with her son. She acknowledged that she had initially suspected the current clinician to be sent by her son.

Approximately 2 hours later, we completed the assessment with Mrs. Green. We elected not to administer all the test instruments since Mrs. Green was clearly competent and she had repeatedly expressed that she was becoming fatigued. As we were leaving, Mr. Green was still waiting. Mr. Green clearly was anticipant of some type of feedback. We advised him perfunctorily that we would prepare a report, and it would go directly to the judge. The judge would be responsible for providing the attorneys of record with copies of the report. The report was carefully crafted to avoid as much as possible contributing further to any family dissension. We were later advised that the court hearing was very abbreviated. The judge cited our report and declared that Mrs. Green met the criteria for having testamentary capacity. The judge concluded that Mrs. Green's will was a valid reflection of her desires, and that at the present time, she was competent to manage her affairs.

The case of Mrs. Green offers an example of how the forensic clinician must integrate bits and pieces of inconsistent information. FDA-5 is an effort to reconstruct given forensic scenarios, so those distorted elements are accounted for. This effort will yield the most meaningful understanding of the circumstance and lay the foundation for a defensible expert opinion regarding the legal issues.

Psychometric Assessment of Elderly Persons

The forensic assessment of elderly people utilizing psychometric instruments is essentially like that of adults in general. The major precaution would be the utilization of correct age norms as applicable to a given instrument. Clinicians must be sensitive to the special considerations that elderly people may present. This includes the high probability of performance-impairing depression, confabulated responses to mask impairment, and the special sensibilities of an elderly person who is aware of, and embarrassed by, emerging impairments.

The assessment of cognitive functioning in elderly people has a direct bearing on the elderly person's basic capacity to detect, understand, and engage in deceptive behavior. Now at the other end of the developmental spectrum, most of the earlier maturational considerations with children and adolescents remain relevant. As we have attempted to illustrate in the case examples of Grandfather P. and Mrs. Green, the impact of aging and the need to mask impairments can result in an elderly person engaging in deceptive behavior, but all alternatives must be taken into consideration.

The psychological assessment of cognitive abilities and neuropsychological assessment assume that mitigating factors have been eliminated or accounted for. With elderly people, this means that interference from fatigue, medications, potential influence of depression, and other affective symptoms, as well as impacts of medical problems need to be considered. These factors must be either eliminated or, at least, accounted for in the assessment findings.

Distinct cognitive profiles indicative of the presence and severity of depressive symptoms have been described in neuropsychological testing with elderly people (Boone et al., 1995). Depression findings in testing profiles of the elderly can be marked by subtle weaknesses in visual memory and nonverbal intelligence, but with verbal skills maintained. Increased severity of depression can be indicated by mild weaknesses in information-processing speed and executive skills, but with memory, language skills, constructional ability, and basic attention unaffected.

Malec, Smith, Ivnik, Petersen, and Tangalos (1995) described a study of a large group ($N = 376$) of nonclinical elderly subjects. The investigators examined clusters of psychometric profiles to identify elderly subjects who were at risk for future cognitive decline. The study found that relative cognitive impairments as captured in the psychometric data were not predictive of future cognitive decline. It is important to emphasize that this study involved only elderly subjects with no current symptoms or complaint of cognitive impairment. The findings point to the inadequacy of psychometric instruments to identify at-risk elderly. Psychometrics are more effective in identifying elderly people with cognitive deficits and mapping the extent and severity of those deficits. There is also impressive accuracy in identifying the neurological localization of some deficit syndromes.

Later chapters will address in greater depth the issues of assessment of deception and malingering in specific clinical syndromes. Several of these chapters (e.g., [Chapter 12](#), Malingered Neuropsychological Deficits; [Chapter 13](#), Faked Pain; and [Chapter 16](#), Competency and Deception) will have relevance for the elderly person.

Synthesis

The review of deception issues with the elderly population completes our review of deception in the human developmental spectrum. It is likely that there are genetic and transgenerational components to human deceptive behavior. Forensic clinicians who work with children and families can readily observe patterns of reliance on deception being carried through family generations. It is not usually clear, however, if this is due to genetic or environmental factors or both. The authors view is that it is a combination of the two. This likelihood adds the consideration of transgenerational transmission of deceptive behavior patterns FDA-5.

The elderly person has endured years of exposure to human deception in all spheres of life. At present, there is no mega-study data reflecting if there is any predictable long-term

psychological impact of exposure patterns of human deception. Is there is such impact, does the elderly person live their life as a deception-actor or deception-victim?

The ever-increasing numbers of individuals incarcerated for serious crimes provide one relevant database in terms of those who engage as deception-actors. Elderly people who have been recurrent deception-victims are a separate database. In any event, these are little more than philosophical inquiries at this point, but the prevalence of depression and despair in the elderly members of our culture causes one to ponder the inquiries.

What is the impact of lifelong experience with the human capacity for deception for a person who enters maturity? Erikson (1963) stated that the ego challenge for the person entering maturity was to achieve *ego integrity* vs. *despair*. According to Erikson, the developmental challenge for elderly people is to be able to accept their life, their accomplishments, their failures, and their finality. For the elderly person who has coped and achieved through life, based on a lifestyle characterized by deception, this would appear to be a formidable task. Similarly, the elderly person who enters maturity bitter in the perception of having been chronically victimized by human deceit will have difficulties achieving ego integrity.

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Deception Analysis in Civil Contexts

III



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Introduction

Civil claims of mental injury, trauma, or defect may be broadly categorized into tort claims and eligibility claims. Many of the principles of civil litigation apply to criminal matters as well. For this reason, a re-reading of the APA Guidelines for Forensic Psychology (2013) is highly recommended.

Tort claims, in brief, allege that a personal injury was caused to the plaintiff (personal tort), or to the plaintiff's property (property tort), by the negligence or intentional act of the defendant. Tort claims are originally tried in state and federal inferior courts and are decided based on a judicial decision process. The defendant is a person or business, or combination thereof, although in cases where there are claims and counterclaims, the distinction between plaintiff and defendant can become blurred. Injuries are compensable through awards for the actual damages sustained and sometimes for punitive damages as well. Theoretically, tort claims cover all losses, and there are no limits to the financial awards. In recent years, however, the courts have become concerned about frivolous claims and extravagant damage awards. Accordingly, in many jurisdictions, maximum limits for tort claims have been established.

Embedded within tort claims where deception is involved is a foundational circumstance called the *tort of deceit*, a seldom-used legal injury that occurs when a person intentionally deceives another into an action that damages them. It requires that the tortfeasor makes a factual representation knowing that it is false, or reckless indifference about its veracity, intending that another person relies on it to his or her own detriment. The controlling case originally is *Pasley v. Freeman* (1789), where the plaintiff was a merchant who asked the defendant for a credit reference on a third party. The defendant lied about the third party's poor credit, who received the goods from the merchant, but never paid. The verdict went to the plaintiff. At issue is whenever deceit or falsehood is practiced to the detriment of another, the law may likely give redress.

In this type of deception, the defendant is liable for all losses flowing directly from the tort (see *Doyle v. Olby*, 1969). Although the tort of deceit has wide applicability in the analysis of deception in civil settings on the part of some suspected fakers and independent medical evaluation (IME) evaluators, discussed later in this chapter, it has been rarely utilized. Rather, the onus is put on the injured parties who have, as is the focus of forensic mental health professionals, claimed psychiatric/psychological conditions and emotional injuries.

Eligibility claims allege that the claimant satisfies the current criteria for special assistance from a government program. The eligibility claims systems evolved, historically, because of the complex, adversarial, fault-oriented tort system. Examples of disability assistance programs include Social Security Supplemental Income for disabled persons, workers' compensation, and Veterans Administration programs. These disability programs are alternatives to the tort claim system; they are no-fault in application and based on functional loss, that is, loss of earning capacity.

In regard to workers compensation cases, most states and the United States (U.S.) government for federal personnel established over a century ago a “social contract” or “grand bargain,” whereby injured workers gave up the right to sue their employers for on-the-job injuries in return for medical care and temporary disability payments. Benefits to survivors of workers killed on the job were also provided. It was originally intended as a humanitarian system for the greatest possible medical and vocational rehabilitation and a rapid return to the work force in a cost-efficient manner. Almost all extant workers’ compensation (WC) programs are basically a private payer system, where the employer purchases insurance from an insurance carrier to meet its obligation to the injured worker. The Congressional Research Service determined that in 2015 more than 135 million workers, accounting for more than \$7.1 trillion in wages, were covered by state or federal WC programs (Szymendera, 2017).

Using WC as an example, the various programs have been plagued with biased evaluators, profit-driven insurance companies, adverse court decisions, and poor government oversight. Worse for society as a whole, since 9-11, many states (but not the federal government) have significantly cut WC benefits, denying injured workers help when needed most, and have shifted the costs of workplace accidents to taxpayers (Grabell & Berkes, 2015). These investigators report that since 2003, 33 states have passed laws reducing benefits or making it more difficult for certain conditions such as stress and post-traumatic stress disorder (PTSD) claims to qualify. The average national premium cost to employers per \$100 of worker’s wages in 1988 was \$3.42, which precipitously fell to \$1.85 by 2014. Due to demand by businesses, the overall WC costs from the insurance company to the employer have been going down, while paradoxically, the cost of health insurance—an entirely different system—has skyrocketed to \$12.52 per \$100 of worker’s wages. More arbitrary time limits have been imposed for WC even if workers have not recovered. In 37 states, workers now cannot choose their own doctor or are restricted to a list provided by employers (given to them by insurance companies, who then choose one of their “approved” physicians or clinical psychologists. Neuropsychologists can also conduct WC evaluations). Mental and behavioral conditions, as well as physical conditions, account for over 50 million lost work days per year, costing over \$40 billion annually (Moreo, 2003). Recently, the Center for Disease Control (CDC) estimated that total costs for workers’ compensation cases approach \$560 *billion* yearly in direct medical costs, lost productivity, and disability programs (Dahlhamer et al., 2018).

The costs could be much higher. In a multicenter cohort study of 668 unintentionally physically injured adults, it was found by multiple imputation analysis that increasing levels of depression scores, increasing levels of pain, and an increasing number of nights in the hospital were associated with significantly reduced odds of recovery at 12 months (Kellezi et al., 2017). Although depression, anxiety, and PTSD are common post injury, oftentimes they are not compensated by third-party carriers or government agencies. The worker is left suffering from these psychological consequences of unintentional conditions, paying on their own for treatment, and experiencing long-term negative health and work.

Eligibility claims are originally heard before administrative boards, sometimes termed “rating boards,” and outcomes are the result of an administrative process as compared to the judicial process of tort actions. The threshold legal questions, rules of evidence, rules of procedures, and burdens of proof differ between these two types of forums, as do the types of outcomes. Frequently, cases that begin as eligibility matters can evolve into tort actions.

Tort claims expanded: Under the law, all persons owe a duty of care to each other that can logically be expected from ordinary, reasonable, and prudent persons. A tort is simply

an injury to one's person, interests, reputation, or property that is caused by a breach of that duty. The primary goal of tort law is to compensate injured parties for damages caused by breach of certain commonly recognized duties. As a historical example, many of the very first cases of applied American tort law involved claims by passengers against the early railroad systems. The early railroads were not very reliable for a variety of reasons, including the weather, faulty equipment, damage by buffalo herds, train robbery, and raids by Indians.

The successful prosecution of a tort claim requires proof: (1) that a personal injury occurred, (2) that the injury was the result of the defendant's negligence or intentional act, or (3) that the injury should have been foreseen by the defendant. The distinction between negligent torts and intentional torts is important, because the former allow awards only for actual damages suffered, while the latter also permit punitive damages.

Tort claims often involve huge financial considerations both in terms of court resources and damages. The costs in terms of awards and lost work keep climbing in spite of efforts to cap fees and damages, and to impose other judicial limitations. To illustrate changes since the second edition of this book, in Hall and Poirier (2001), we reported on a study of tort trials by U.S. District Courts for 1994–1995 in which 3356 cases were decided with 42.5% resolved in the favor of the plaintiff (Press & DeFrances, 1997). The median award to plaintiffs was \$140,000.

More recently, New York's appellate courts issued decisions in ten cases in 2011 alone that approved for each case pain and suffering damages in the sum of \$3,500,000 or more (Hochfelder, 2012). From 2012 through 2016, Kreidler (2017) reported that insurers in Washington State paid \$25.6 million for plaintiff verdicts or judgments. Of the 20 plaintiff verdicts or judgments, 18 had a payment averaging \$1.4 million. Kreidler (2017) also reported that most claims were resolved by the courts and ended in favor of the defendant, a general finding that holds over the decades over the nation. Insurers and their defense attorneys win the majority of cases. As Kreidler reported, insurers and self-insurers reported that 164 claims were resolved by the courts in their favor in 2016, compared to 189 per year on average for the previous four years. The study also found that defending lawsuits is costly to insurers and self-insurers. Both groups spent \$69.5 million defending lawsuits in which they ultimately prevailed. Critically, this was 2.7 times the total indemnity payments for plaintiff judgments or verdicts. These data illustrate the context of large financial stakes within which involved parties operate—the litigants, insurance companies, evaluators, and attorneys.

Malpractice is a particular and relevant application of tort law against professionals who do not meet the standard of care for providing services as established by their discipline. From the legal perspective, professionals have a duty of care based on their particular training and experience, which, in turn, is the basis for the professional relationship. Malpractice claims, therefore, introduce an additional element into the proof requirements. A malpractice claim must demonstrate a breach of the professional duty of care according to the prevailing standards for the profession. This is on top of the need to establish that there was a doctor-client relationship, the client was injured physically or mentally, and there was a causal link between the negligence and the injury. Psychologists and psychiatrists can and have been sued for causing harm to a client, the most common intentional torts involving alleged sexual assault, battery, breach of trust, fraud, and intentional infliction of emotional distress (<http://www.allaw.com/articles/nolo/personal-injury/intentional-infliction-emotional-distress.html>). These alleged acts often involve some deception on the part of the defense or plaintiff in order to gain the monetary rewards or some other motivation.

In the authors' civil-forensic experience, tort liability on the part of the forensic professional is relatively easy to demonstrate if the opposing expert, in rare cases, altered records including and especially progress notes. Besides attempting to cover alleged malpractice after the fact, failure to assess for deception can be shown easily by the omission of a standardized battery of reliable and valid tests, specialized tests for malingering, and a sound deception analysis after evaluation. Contrary to popular opinion, nevertheless, as we shall show by various court judgments, evaluators are extremely unlikely to be successfully sued because of bias.

A verdict or finding of no liability is usually established by compiling complete records which follow the standard of care. Many insurance companies and their defense attorneys, however, use the profit-driven strategy of routinely settling tort claims in complex cases or where some information is lacking in order to avoid the cost of litigation. For alleged wrongdoing by the evaluator, the forensic professional may be surprised to learn from their own professional liability carrier that if he or she disputes the settlement agreement, perhaps strongly believing in the merits of the case, damages may have to be paid personally if the case goes forward and the outcome is unfavorable. Not all malpractice insurers use this method, so a complete reading of the insurance policy is recommended for liability protection.

Civil courts have shown over the decades a combination of reluctance and fear in accepting opinions that a plaintiff is malingering. In a precedent-setting case *Miller v. United States Fidelity and Guaranty Co.* (1957), the court stated:

The principle that courts will stigmatize a claimant as a malingerer only upon positive and convincing evidence justifying such a conclusion is so well embedded in our jurisprudence as to preclude the necessity for specifications.

Liability for diagnosing malingering: Assigning a label of malingering, or any label that suggests the examinee is intentionally engaging in false behaviors or statements—faking good, faking bad, dissimulation, feigning, suboptimal performance, prevarication, or just plain lying—can theoretically put the forensic professional at risk of tort actions. Examinees may claim that the examiner has defamed them (libel or slander), incompetently performed the evaluation, had a demonstrable bias, or any other supposed actionable cause. Examiners may counter with claims of immunity, that they acted in good faith, the stand-alone and imbedded methods to detect faking were rigorous, objective, and comprehensive, and both Frye and Daubert standards were met.

Further, there is a long tradition of immunity for experts in order that courts can be assured that witnesses, including expert witnesses, are free from the apprehension of negative counteraction for their testimony (see *Hunckel v. Vonieff*, 1888). A Pennsylvania superior court in 1993 in an insurance case supported this view by narrowly defining abuse of the immunity privilege as when there is associated malice on the part of the examiner or when the statement was made for a purpose other than the intended purpose of the evaluation (*Elia v. Erie Insurance Exchange*, 1993).

Weiss and Van Dell (2017) opine that offering an opinion of malingering risks a penalty for the perceived exclusion of testimony, based on the assumption that deciding legal truths including credibility is rightfully the province of the judge and jury. Other perceived disadvantages to the expert are discussed by these authors including damage to the reputation of the forensic professional or an institution/organization which he or she represents. Despite suspicion of malingering by military or veteran personnel in compensation-related situations or when attempting to avoid certain types of duty such

as combat, the military itself has had an institutional prejudice against certain types of conditions such as PTSD, discussed later in this chapter.

The bias against mental and emotional injuries: As stated, the damage done to the plaintiff's reputation is one reason for the court's reluctance to accept opinions of malingerers, another was the logic of the economic situation. In *King v. Mullins*, 171 U.S. 404 (1898), the courts found it difficult to believe that the plaintiffs would sacrifice relatively well-paying jobs in order to fake an injury for a mere fraction of the amount of their pay. The courts want neither to label one as a malingerer, nor to allow recovery for malinger-ing to take place. This dilemma is partially resolved by a strategy adopted by many courts:

The common law has long been wary of permitting recovery for mental or emotional injuries because of the fear that an absence of demonstrably verifiable injuries posed a risk of fraud to which the courts could not effectively respond. One aspect of a gradual diminution of that fear is that a plaintiff may now recover damages for mental or emotional injuries, in all jurisdictions, if these are proximately related to compensable physical injuries. The presence of related physical injuries serves two purposes. First, the physical injuries are thought to provide some safeguard against fraud by demanding some demonstrable evidence that the plaintiff has actually been injured. Second, courts have come to accept that physical trauma may have an emotional consequence and are, therefore, more willing to permit recovery in these instances. (Shuman, 1986)

Common law regarding psychological injuries in the last few years reflects a mixture of values and precedents directly or indirectly relevant to deception. Vallano (2012) noted a few themes from his review:

(1) Courts generally devalue psychological injury, often making it difficult to pursue and succeed on these claims; (2) these difficulties are a likely byproduct of legal decision-makers' misperceptions of mental illness, and (3) despite a recent surge in empirical research on how jurors perceive and use psychological injury evidence to render civil decisions, many unexplored areas remain.

Vallano (2012) observed that although only a minority of jurisdictions have retained a requirement for physical injury as a requisite for the award of psychological damages, about 50% of civil jury awards involve pain and suffering. There are a number of constraints and limitations to pursuing this type of claim. Vallano (2012) observed that:

1. There is an absence of objective guidelines to classify an injury as physical or psychological, especially in cases involving dual diagnoses and polytrauma, making it difficult for the trier of fact to determine whether the physical injury requirement has been met
2. Plaintiff recovery is limited by the extensive latitude given to the defense when challenging the psychological injury claim. Vallano (2012) noted that the mere presence of an opposing expert decreases the likelihood that plaintiffs will win a favorable outcome commensurate with the severity of their injury. He did not acknowledge the substantial problems defense attorneys show in meeting their legal and moral obligation to be moral and objective, discussed in detail in the last section of this chapter
3. An obstacle to obtaining compensation that reflects the severity of a psychological injury is the presence and admissibility of a pre-existing psychological injury.

Vallano (2012) stated that although plaintiffs can utilize the “eggshell skull” rule—the law taking the client’s condition as it is—a pre-existing injury is usually damaging to the plaintiff’s case. Jurors, for example, are usually made aware by the defense attorney that up to 50% of the population over their lifetime meet the diagnostic criteria for a psychological disorder. A paucity of research bears upon the prejudicial effect of a pre-existing injury when utilized by the plaintiff. When evaluating credibility, the jurors can consider whether the plaintiff is intentionally blaming the defendant for psychological injuries. The plaintiff may be seen as deliberately concealing the contribution to their injuries (i.e., faking good) or exaggerating the connection between past conditions and the current adjustment (i.e., faking bad). Both of these response styles are damaging and sometimes fatal to the plaintiff’s case

4. No one knows beforehand whether psychological injury will help or hurt a particular case. Research has shown that both plaintiff and defense attorneys are both inaccurate and overconfident regarding their ability to obtain a favorable outcome for their side (Goodman-Delahanty, Hartwig, Granhag, & Loftus, 2010). This finding is similar to research in other chapters of this book showing that a wide variety of evaluators—including forensic professionals—are overconfident and simply wrong in a substantial percentage of their predictions and descriptions of events and conditions

Juries appear to become very rigid when they feel the plaintiff may have attempted to dupe them. In an old case, *Freeman v. Bandlow* (1962), an old plaintiff bus passenger was hit by the defendant’s auto. The jury awarded the plaintiff only \$280—the amount of a doctor’s bill—in an apparent belief the plaintiff was a malingerer. In the authors’ experience in both civil and criminal court, substantiated deception on the part of the plaintiff or (criminal) defendant may be sufficient to fatally flaw their case in the eyes of the trier of fact. Smith (2018) examined the bias when jurors were faced with cases of potential malingering. He found that malingering veterans were found guilty more often and were diverted to treatment less often than those veterans who received their PTSD diagnosis before an arrest.

The collateral rule: Controversy over the latitude of the courts in allowing either direct or indirect testimony regarding malingering has continued to the present day. There is an entire area of disability law dealing with the admissibility of collateral sources of income for plaintiffs. The collateral source rule essentially holds that a plaintiff’s recovery need not be offset by other sources of income. In cases where malingering is an issue, collateral source evidence can be very prejudicial to the plaintiffs’ case. In a landmark case addressing the discretion of courts to permit testimony regarding malingering, the U.S. Supreme Court ruled against a lower court allowing such testimony (*Eichel v. New York Cent. R. R. Co.*, 1963). In *Eichel*, the Court opined, “[i]nsofar as the evidence bears on the issue of malingering, there will generally be other evidence having more probative value and involving less likelihood of prejudice than the receipt of a disability pension.”

Eichel was decided before the current Federal Rules of Evidence were enacted. Rule 403 of the Federal Rules conferred, “...broad discretion upon the district court to weigh unfair prejudice against probative value” (709 F.2nd at 741). In *Savoie v. Otto Candies, Inc.* (1982), the court found that the adjudicatory analysis in *Eichel* was consistent with Rule 403. In *McGrath v. Consolidated Rail Corporation* (1998), the federal court ruled that the lower court did not abuse its discretion by permitting testimony regarding malingering. The court found:

Aside from judicial restraints in the use of collateral source information in cases of suspected malingering, collateral data are invaluable for the forensic clinician. It is conceivable that the court may later deem any such data utilized in a forensic assessment inadmissible, but this is true for virtually any information that is part of the forensic database. Attorneys have a responsibility to protect their client's legal interests and can attempt to have any information they perceive as prejudicial ruled inadmissible.

The current trend is for states to alter or partially abrogate the collateral source rule (Dolan Media Newswires, 2016). The insurance companies are generally in favor of eliminating this rule despite arguments that it is grossly unfair to the plaintiff to cut his or her award for damages, for example, for medical bills paid by health insurance.

The courts have established, absent evidence of malingering, awards can be made under many conditions for psychological trauma in the absence of physical injury. "Loss of consortium" as one application of psychic harm has been consistently recognized as compensable (*Metropolitan Dade County v. Orlando Reyes et al.*, 1996; *Byerley and Byerley v. Citrus Publishing*, 1999). The courts have also recognized delayed onset symptoms, for example, symptoms appearing in adulthood stemming from childhood trauma. In *Teater v. State of Nebraska* (1997), the appeals court overturned a lower court decision that a claim was time-barred because it was made well after a two-year statute of limitations had been exceeded. The claimant was an adult who had been placed as a child by the Department of Social Services in a foster home. As a child, her foster father continually subjected Ms. Teater to sexual assaults from the age of 6 to the age of 14. The plaintiff's claim was not made until 22 years after the first reported abuse. The claim was that Ms. Teater suffered permanent psychological injury, and that the State of Nebraska had been negligent in providing adequate safeguards.

Sexual harassment claims: We now consider the dramatically changing picture in sexual harassment claims in both tort and eligibility actions. For several decades, sexual harassment claims have appeared as stand-alone claims or as simultaneous actions in tort and eligibility claims (see *Underwood v. NCUA*, 1995; *Neal v. Director, D. C. Department of Corrections*, 1996; *Nichols v. American Nat'l. Ins.*, 1999). An overview of the ostensibly complex problems faced by the courts in adjudicating sexual harassment complaints was offered in the appeals case, *Underwood v. NCUA* (1995). Underwood was perceived as a complicated matter, originally beginning as a workman's compensation claim, and evolving into a tort action that was appealed. The matter involved Underwood's employment with a credit union and a sexual liaison between Underwood and the plaintiff, who was a supervisor. Subsequently, Underwood filed claims of physical injury, emotional distress, and a claim of sexual harassment. The case was complicated further by the fact that, in the midst of the original proceedings, the credit union went into liquidation. Receivership was assumed by NCUA, the defendant in the immediate appeal action.

In its decision, the court determined:

[T]he fact that appellant's common tort claim for emotional distress is premised on the same events that underlie her Human Rights Act claim for sexual harassment profoundly affects the analysis. As a result, her alleged disability "clearly" falls outside the WCA [Workers' Compensation Act] definition of disabling injuries as a matter of law, and appellant is thus free to file suit for emotional distress in superior court rather than submitting that claim to DOES [Department of Employees Services]

In its decision the court also left “for another day” several issues inherent, but not immediately actionable, in *Underwood*. The *Underwood* matter demonstrates how previous courts saw the potential judicial complexities of a civil claim and serves to alert the forensic clinician of how convoluted such matters were in past cases. A litigant, for example, may begin with a bona fide, work-related physical health problem, but end up malingering the severity of those symptoms, and also be induced to malingering or exaggerate psychological symptoms, as well as claim sexual harassment, or any combination thereof.

In the last decade, the “complexity” of sexual harassment and emotional distress claims with a burgeoning of awards has changed radically, perhaps indirectly stimulated by the Me Too (or #MeToo) movement. The largest single-plaintiff employment jury verdict a few years ago was almost \$168 million, reduced by the judge to \$82 million, and later vacated because attorneys reached a negotiated settlement (see *Chopourian v. Catholic Healthcare West*, 2012). The plaintiff-victim of workplace sexual harassment, a former physician assistant at Mercy General Hospital, had filed about 18 complaints over a 2-year period, but to no avail. The complaints included testimony and written statements that one surgeon’s daily greeting included slapping her on her buttocks after telling her “I’m horny.”

The denials and fake-good deception of the defendants in the *Chopourian* case were pierced by multiple witnesses, the written complaints, the lack of wrongdoing on the part of the plaintiff that lead to her work termination, and other corroborating evidence. Mercy General Hospital staff were unrepentant even after the negotiated settlement because, as the plaintiff explained, a powerful and thick shroud of protection surrounds the huge moneymaker units of hospitals, particularly cardiac surgery. The plaintiff’s legal strategy of multiple (and actionable) claims—hostile work environment, retaliation for workplace complaints, defamation, and intentional interference with economic advantage—was in this case sound and effective.

The changing landscape of sexual harassment claims and the effects on both plaintiff and defendant are, as a final example, the lawsuit filed by Gretchen Carlson against Roger Ailes in 2016. Carlson, a former Fox News Channel broadcaster, filed a sexual harassment lawsuit against the very powerful Fox News then-CEO Roger Ailes, alleging that her work contract was not renewed because she refused to sleep with Ailes, and that she was subjected to “severe and pervasive sexual harassment” on the job. The case settled for \$40 million, Fox issued a formal apology and praised her work, and Carlson’s book: *Be Fierce. Stop Harassment and Take your Power Back* (2017) was a bestseller. Ailes was forced to resign and within a year died of a brain bleed from closed-head trauma with hemophilia contributing to his death (see Hyman & Stewart, 2017).

Other women alleged that Ailes had sexually harassed them, a pattern that contributed to his sacking, and rendered useless denials and distortion to the contrary (Sutton, 2016; Ross, 2018). Megan Kelly, a top Fox newscaster and an alleged victim of repeated sexual harassment from Roger Ailes, listed several behaviors of powerful people that function to both intimidate victims and cover their own tracks (King, 2011). Relevant to deception, often there are intimidation tactics and covert messages sent by the harasser with rewards for compliance. Perpetrators, in essence, want to strike a deal. There may be an escalation of aggressive behaviors from words to actions, as when Ailes progressed from suggestive words to attempting to kiss Megan Kelly the last time he allegedly sexually harassed her. The victim staying on the job after the harassment is stopped is no evidence that such behavior did not occur. Still, an informal contract is apparently reached in these cases to not spill the beans, with retaliation by the harasser for the victim breaching this agreement. For all sorts of reasons, some persons will support the harasser even in the face of evidence

to the contrary, as with some of Megan Kelly's co-workers up to the time Ailes was fired. By implication, this means they are likely to deny negative information about the perpetrator and may exaggerate positive traits based on their own experience or what serves their interests. It is a very good idea for the victim to keep notes of the harassing events and surrounding circumstances in the form of a diary, as Megan Kelly stated, as well as have a strong support base for revealing the truth. She credits her daughter for having pressured her to reveal the truth about Ailes's harassment. Despite definitive and multiple layers of truth, Ailes's attorney released a statement that he "categorically denied" any of the allegations and that the defendant worked "tirelessly to promote and advance her career."

From Frye to Daubert. Although some states still utilize Frye, or the general consensus rule, the majority of states and the federal jurisdiction now support *Daubert v. Merrill Dow Pharmaceuticals* (1993). A major change in civil litigation was introduced by *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993). In *Daubert*, the U.S. Supreme Court gave trial judges a "gate keeping" function to decide whether or not scientific expert testimony was sufficiently reliable to be admissible. The trial judges are empowered with wide discretion to make this determination. In *Nichols v. American Nat'l. Ins.* (1999), the appeals court cited *Daubert* and ruled inadmissible the testimony of an expert witness psychiatrist. The court stated that the psychiatrist's testimony regarding the claimant's "psychiatric credibility" based on "theories" of recall bias, secondary gain, and malingering did not meet the *Daubert* criteria for having a scientific basis. The court also noted that, moreover, the issue of the claimant's credibility was exclusively the purview of the jury. *Daubert* reasoning overall remains valid today and applies to criminal matters as well as civil litigation.

About 40 states currently utilize *Daubert*, 8 use *Frye*, and 6 have mixed variants determined by the state legislatures (Morgenstern, 2017). Some states that have adopted *Daubert* now allow non-scientific evidence. The Alabama Supreme Court decided in *Mazda Motor Corporation v. Hurst* in 2017 that a "design defect and causation effect" did not have to meet the reliability and methodological requirements imposed by *Daubert* because his testimony was based on deductive reasoning, not a "scientific theory."

The rigorous *Daubert* standards may be weakening. The Florida Supreme Court in 2017 declined to adopt *Daubert* standards due to "grave constitutional concerns" about this standard. This court opted to revisit the question in 2018 in *Delisle v. Crane*, which held that the *Daubert* standards infringes on the court's rulemaking authority. In this mesothelioma personal injury case, the issue on appeal was the admission of expert causation testimony. The court found that the trial court had failed to properly exercise its gate-keeping function as to the three experts who disagreed among themselves as to causation. Even if experts disagree and use different standards, the supreme court held that:

Frye v. United States, 293 F. 1013 (D.C. Cir. 1923) not *Daubert*, is the appropriate tests for Florida courts to determine the reliability of expert testimony before allowing it to be admitted into evidence.

Forensic professionals would be well advised that, given the ubiquity of this legal reasoning in some jurisdictions, opposing experts may draw from a variety of psychiatric and psychological perspectives in order to proffer their conclusions. From an applied perspective, it is a significant advantage to the expert who has the opportunity to review opposing expert's evaluation before rendering his or her own. It is also a good idea to re-administer a few reliable and valid measures administered by the opposing expert.

A countermeasure to experts' misuse use of Frye and Daubert standards, for example, the expert hiding dubious methodology, is for the cross-examiner to critically analyze error rates, both for type 1 and type 2 errors, for the measures employed. Since courts generally allow biased evaluation when challenged out of misperception or lack of knowledge, one role of the opposing expert should be to educate the trier of fact on the empirical state-of-the-art.

Table 11.1 lists numerous judicial principles, which have continued to emerge in civil case law over the years. An inspection of this table reveals that considerable conceptual latitude is shown toward the plaintiff when he or she is attempting to recover for non-verifiable (i.e., mental) states.

Table 11.1 Personal Injury Litigation

Principle	Representative Case
Recovery of damages possible for mental or emotional injuries if linked to compensable physical trauma	<i>Sinn v. Byrd</i> (1979)
Physical trauma frequently causes emotional sequelae	<i>Murphy v. Penn Fruit Co.</i> (1980)
Physical trauma frequently causes associated residual pain	<i>Tramutola v. Bortine</i> (1973)
Expert testimony required if physical trauma or associated psychological injuries are not a matter of common knowledge	<i>Foley v. Kibrick</i> (1981)
Expert psychiatric/psychologic testimony required establishing link between physical injury and schizophrenia	<i>Pagan v. Dewitt P. Henry Co.</i> (1976)
Expert psychiatric/psychologic testimony required establishing link between physical injury and psychoneurosis	<i>Hess v. Philadelphia Transp. Co.</i> (1948)
Expert testimony not required for pain and suffering	<i>Jones v. Miller</i> (1972)
Successful cases depend on requirement of reasonable medical certainty	<i>Bell v. New York City Health & Hosp. Corp.</i> (1982)
Psychologists can relate pain to organic cause if malingering ruled out	<i>Buckler v. Sinclair Ref. Co.</i> (1966)
Recovery for psychological injuries in absence of physical injury possible if intentionally inflicted	<i>Nickerson v. Hodges</i> (1920)
Recovery for psychological injuries in absence of physical traumata possible if another party injured or died	<i>Landreth v. Reed</i> (1976)
Recovery for psychological injuries in absence of physical traumata possible if injured party in "zone of risk"	<i>Tobin v. Grossman</i> (1969)
Neuropsychologist can testify to organic basis of cognitive deficits caused by exposure to toxic chemicals	<i>Morris v. Chandler Exterminators</i> (1991)
Expert witness testimony inadmissible because it did not meet current scientific standard (i.e., Daubert), and because it addressed conclusion (claimant credibility) that is exclusive function of jury	<i>Nichols v. American Nat'l. Ins.</i> (1998)
Plaintiff or defendant may use videotaped expert witness deposition made by either side	<i>Ross v. Hobbs</i> (1998)
court narrowly defines abuse insurance of immunity privilege to protect exchange experts	<i>Elia v. Erie</i> (1993)
Legal complexity of some tort cases (e.g., sexual harassment claims), is reduced with a huge increase in rewards	<i>Chopourian v. Catholic Healthcare West</i> (2012)
Daubert standards expand to a majority of states with rollback in recent years	<i>Daubert v. Merrell Dow Pharmaceuticals, Inc</i> (1993) <i>Delisle v. Crane</i> (2018)

Eligibility Claims Expanded: Some, but not all, mental disorders are considered impairments for purposes of determining eligibility for these eligibility programs. Organic mental disorders, schizophrenic, paranoia, and other psychotic disorders, affective disorders, mental retardation and autism, anxiety-related disorders, somatoform disorders, personality disorders, and substance addiction disorders are eligible disorders in adults. Chronic brain syndrome, psychosis of infancy and childhood, functional non-psychotic disorders, and mental retardation are eligible disorders in children. However, the criteria used to define these categories are not necessarily the same as those in related categories of the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5), the current edition of mental disorders, or International Classification of Diseases, 10th Revision (ICD-10).

Griffin, Normington, May, and Glassmire (1996) estimated one-fifth of Social Security disability claims to be compromised by malingering. An inspection of the section on base rates for malingering reveals that there is no compelling evidence that this percentage has changed by 2018. Yet the base rate for deception controversy continues, with ensuing chapters providing additional information in a variety of context.

Workers' compensation programs provide compensation or insurance for injuries arising in the course and scope of employment, regardless of whether the injury was due to the negligence or intentional fault of the employer. The amount of compensation is set by a fixed schedule according to the degree of loss. Youngjohn (1991) estimated that as many as one-half of all workers' compensation cases may be compromised by malingering. Studies reviewed by Bender and Frederick (2018), as stated in other chapters and sections of this book, suggest that previous estimates of malingering relied on overinclusive criteria, frequently adding "possible" and "probable" malingering to the overall rate, and that more definitive criteria yield a lower base rate. This observation is in line with several comprehensive reviews of malingering base rates to date that corrected for confounds which found that the true base rate of malingering in forensic contexts is likely to be 10%–20% (Young, 2015).

The Veterans Administration (VA) offers programs for medical and mental health treatment to honorably discharged veterans on a priority basis. The availability of these services depends on current VA resources; and eligibility depends on one's status at the time of discharge and whether or not the disorder is "service-connected." In addition, the VA administers a program of monetary payments to veterans (and their dependents) who are totally or partially disabled by a service-connected disability. Regional Offices of Jurisdiction, whose decisions are appealable to the Board of Veterans Appeals, determine eligibility for disability payments and the degree of disability. Decisions of the Board of Veterans Appeals are appealable to the U.S. Court of Veterans Appeals.

All of these types of eligibility claims are vexed with problems of malingering (Beal, 1989; Braverman, 1978; Lipman, 1962; Rickarby, 1979; Wasyliw & Cavanaugh, 1989; Williams, Lees-Haley, & Djanogly, 1999). For example, the U.S. Department of Veterans Affairs, *Physician's Guide for Disability Evaluations*, 1985 Ch. 1, Sec. II, Para. 1.14, 1.16 and 13.6(f), 13.6(g) (1985), 1B11-56, states as follows:

Physicians encounter some veterans or other claimants who are not capable of reliably participating in examinations because they are too ill physically or mentally to provide an accurate report of current symptoms or current level of functioning. Some veterans may exaggerate their disabilities, while others, particularly older veterans, may deny or be unrealistic in reporting the extent of their disablement.

An empirical study published in 2017 in VA facilities suggested that Compensation and Pension (C&P) examiner racial bias might have led to an increased rate of *false negative* conclusions regarding PTSD diagnosis for black veterans, and a high rate of *false positives* for white veterans (Colman, 2015). Perhaps worsening the problem of malingering, some VA facilities prohibit examiners from using symptom validity tests to screen or assess for malingering and other forms of dissimulation (Poyner, 2010).

Several researchers have published empirical studies in peer-reviewed scholarly journals pointing to significant rates of both false positive and false negative PTSD C&P exam conclusions (Arbisi, Murdoch, Fortier, & McNutty, 2004; Hall & Hall, 2006). However, several of these studies only utilize the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) which, although a valid test for response set, falls short of the recommended number of deception measures (6) to be utilized in the Forensic Distortion Analysis (FDA). Failure to utilize some of the major, well-researched malingering scales, a significant mistake on the part of the VA, renders conclusions about malingering less valid.

Although some veterans may fake or exaggerate symptoms, as discussed, it is also possible that a negative bias against PTSD has existed on the part of evaluators in the military and VA. Revealed by U.S. Senator Patty Murray in a massive investigation, 290 out of 690 patients had their medical record-certified PTSD diagnoses dropped or replaced (Bernton, 2012). This practice of course reduced the amount of medical retirement paid, a desired outcome given the \$1.5 million extra cost per patient to the government it was thought a diagnosis of PTSD would result in. Bernton (2012) points out that the army's new guidelines for the evaluation of PTSD, consisting of a variety of data sources, such as the inclusion of reliable and valid tests, authenticated background information including premorbid history, structured interviewing, and collateral information, makes the current PTSD evaluation by the military and the VA comprehensive and sound.

Generally, the claimant in administrative hearings is given much leeway in demonstrating disability. Although malingering per se is not grounds for denial of eligibility, it may likely be a contentious element in many claims. In *Board of Trustees of Fire and Police Employees Retirement System of City of Baltimore v. Ches* (1982), a police officer claimant was held to be disabled from an August 1, 1977 rear-end accident in his police car despite medical testimony of his malingering (pretending to be ill or injured to avoid work). In *Transit Authority of River City v. Vinson* (1985), collateral evidence of social security, disability, and insurance benefits paid to a plaintiff after an accident was excluded where the court felt that the jury would be misled by evidence of malingering. In *Cockrell v. U.S.* (1934), the plaintiff's deliberate failure to obtain work to avoid discontinuance of a VA disability was admissible as evidence of malingering, and in a Board of Veterans Appeals decision of March 17, 1978, Docket No. 77-36-991, feigned reactive depression was admissible evidence in a VA case. The essential feature of most eligibility programs is the adversarial nature of the disability determination evaluation. Claimants are presumed to be ineligible for services unless they can prove that their injury/disability satisfies current eligibility criteria. This remains true today.

Targets

Any deficit may be faked in the civil claims of psychological damage. Some types of traumas are more common sources of claims than others. As one example, mild head trauma is one of the most prevalent targets of civil claims, discussed in the following chapter. Although

monetary compensation may be the prime motive for civil litigation, case law, behavioral science research, and the authors' clinical experience suggest other motives. One such incentive is the preservation of self-esteem in the face of the possible loss of major supports in life, work, and physical/mental health. Loss of function is generally associated with diminution in self-esteem. This triggers a search to rectify the situation or to at least place the disability in a different and less threatening perspective. For many cases of malingering, unintentional distortion may occur.

Paul Lees-Haley (1988, p. 196) described these non-deliberate factors in civil claims in terms of the following progression that remains valid today: (1) a physical or psychological trauma occurs, (2) this trauma causes genuine transient effects such as pain, anxiety, and depression, and (3) the patient develops a combination of reactions during treatment, including: (a) hysterical reactions to real and imagined problems, (b) hypochondriacal reactions to real and imagined problems, (c) genuine side effects of prescribed medications, (d) hysterical and hypochondriacal reactions to the side effects, and (e) secondary gain. Throughout this process, the patient learns the "language" of stress disorder claims through interactions with attorneys, relatives, friends, healthcare providers, and others, including popular magazines. This knowledge influences the patient's view of symptoms and interpretations of other, irrelevant experiences. Thus, fakers who are wholly conscious of their deception and who target specific symptoms for deception may be in the minority. Malingering associated with real conditions, representing an exaggeration rather than a fabrication, may represent the norm. Keep in mind that disability may be represented for different periods of time (e.g., for the time of an evaluation, for the past, or future), adding to the difficulty of assessing disability claims.

Berry and Nelson (2010) point out that unless the suspected faker admits to intentionally faking, deception must be inferred and is difficult to differentiate from genuine symptoms in such conditions as bipolar personality disorder (BPD), complex trauma, persons with dual diagnoses, and culturally influenced psychopathology. Carr (2015) in a comprehensive review and study of malingering, agrees with Berry and Nelson (2010) and uses the example of BPD to illustrate that difficulty in detecting true malingering. The very nature of some conditions such as BPD have a dramatic flair and borderline persons may not be aware of their inflated endorsement of symptoms. If such persons are unintentionally exaggerating their symptoms, Carr (2015) asserts, with a good deal of clinical support, that malingering has not occurred. She provides other examples of the difficulty in differentiating true malingering from other conditions.

Response Styles. It is instructive to review malingering styles proposed by forensic professionals in past decades, some of which are still useful today. In a typology of 2500 clients within an industrial injury context, Braverman (1978) described several styles of malingering:

1. *"True," deliberate, or fraudulent malingerer.* This comprised less than 1% of Braverman's 2500 clients. Detection was simple, as they were all persons with: (a) gross psychopathology, (b) no binding ties within a migratory pattern, (c) all men 25–37, (d) intolerance for long diagnostic testing, and (e) a quick termination of the case once confronted with the possibility of malingering
2. *Cover-up or decoy malingerer.* Here, the faker experienced real trauma (most likely to the head). The compensable disease, such as cancer, is misattributed to the genuine injury. Fear of death and a family history of the disease emerged as central dynamics. About 3% percent of Braverman's sample is accounted for by this type of deception

3. *The hysterical malingerer.* Comprising about 31% of the patients and the largest proportion of the sample, malingering in this type stems from a hysteric process culminating in loss of hope for recovering to preinjury status
4. *The psychotic malingerer.* Comprising about 2% of the sample, this type usually has paranoia and bizarre features to his or her disability
5. *The organic malingerer.* Comprised largely of Korsakoff patients and consisting of 2% of the sample, this type invents pathology due to the organic condition. Associated features included hyper-suggestibility, shifting of symptoms, and uncertainty about the symptoms

Braverman (1978) makes the valid point that work-related malingering is seldom planned in advance and is usually concocted after genuine injury and attendant loss of face occur. In anticipation of fluctuating response styles, he stated that malingering, like most other defenses to loss of face, waxes and wanes in accordance with environmental stimuli. Overall, as the above percentages suggest, he opined that about one-third of his 2500 clients engaged in psychotraumatic malingering. His exact criteria for inclusion as malingering were not specified, so there is a likely possibility his estimates may be inflated. The hysterical person, for example, may be engaging in unintentional dramatic and exaggerated behaviors, as discussed by Carr (2015) in her discussion of BPD and malingering.

Four types of response styles have been described by Lipman (1962, p. 143), including pure invention, perseveration by choice of remitted symptoms, exaggeration—genuine symptoms are present, but the patient fraudulently makes these out to be worse than they are, and transference—genuine symptoms are fraudulently attributed to a cause other than the actual cause in fact.

In general, the response styles delineated by investigators describe one or more of the classic types propounded in the first two editions of this book (i.e., see Hall & Poirier, 2001). Applied to civil situations, these are as follows:

1. Honesty. Attempts to be accurate within one's perceptions. Here, deficits are portrayed as they are seen, even though non-intentional distortion, such as caused by stress, may be operative to a considerable degree
2. Faking bad. Exaggeration or fabrication of symptoms and behaviors, or denial/minimization takes place in order to look worse than one is. Exaggerated back injuries, common and difficult to disprove, are placed into this category
3. Faking good. Minimization or denial of symptoms and behaviors, or exaggeration/fabrication of symptoms in order to look good. The claimant may try to hide the fact that illicit substances contributed to an auto accident or that safety equipment was not operative
4. Invalidation. Attempts to render the evaluation meaningless (e.g., irrelevant, random responding). The claimant may feign cooperation with the retained expert, but not report for appointments with the opposition expert
5. Mixed responding. Combination of above within same evaluation period. The claimant may exaggerate back injury, but deny alcohol problems
6. Fluctuating. Change of response styles between or within evaluation periods. The claimant may start off honestly in order to become familiar with testing procedures, then switch to mixed responding, then to random responding as tiredness sets in

Detection Methods: This section discusses the fascinating literature on factors influencing successful malingering, and then countermeasures, which can be utilized by the forensic professional to account for such efforts. The information also applies to criminal-forensic as well as civil-forensic settings and situations. Keep in mind that any untoward influence on the veracity of the litigant or defendant should be discussed in the report and/or expert testimony.

Factors influencing *successful* malingering operationally indicate that, as we already know from some well-controlled studies, examinees can feign mental illness or psychological/neuropsychological disability without being identified.

One method conducive to successful faking is to endorse a level of psychopathology that is significantly less than fakers, yet severe enough to be considered a significant level of psychopathology.

Edens et al. (2010) found that 11% of non-mentally ill college students studied that were instructed to feign mental illness were successful fakers. These students were not more motivated toward success nor were they more self-confident in their ability to go undetected than the other Subjects (Ss).

A second method pulls from personal experiences in that most people have experienced some degree of psychopathology during their lifetime but have adapted to deceptive interactions.

A third method from the older literature is modeling the behavior after a genuinely mentally ill person with whom fakers are familiar, as opposed to responding randomly (Bandura, 1977).

A fourth method is knowledge of psychopathology, available to all in modern society (Viglion et al., 2001; Bagby et al., 2006). This information is then utilized to fake conditions in the direction of one's vested interest.

A fifth method, currently an unsettled issue as attorneys feel an ethical obligation toward disclosure of methods and tests to which their client may be exposed, is coaching from legal representatives (Storm & Graham, 2000). Some attorneys may inform their clients about the purpose of malingering-specific measures, validity indicia, and how to avoid being too obvious by overendorsement of symptoms. Attorneys may inform their clients of the specific symptoms of a disorder and/or the specific properties of assessment devices, both of which lead to evading detection (Rogers, Bagby, & Chakraborty, 1993). Test takers who are coached by their attorneys on the MMPI-2 infrequency, Fb, and psychiatric infrequency scales can produce results suggesting severe pathology, but not faking (Storm & Graham, 2000). Coaching had the greatest effect in generalized anxiety disorder and PTSD, suggesting that these two disorders are less easily detected than schizophrenia (Veltri & Williams, 2012).

A sixth method for successful faking without being detected is to avoid certain commonly used malingering methods of high reliability and validity (Jelicic, Ceunen, Peters, & Merckelbach, 2011). Jelicic and colleagues studied the Test of Memory Malingering and the Structured Inventory of Malingered Symptomatology. Coaching on the Test of Memory Malingering and Structured Inventory of Malingered Symptomatology did not affect accuracy, however. The Structured Inventory of Malingered Symptomatology test scores accurately classified feigning for 93% of symptom-coached Ss and 86% of symptom/test-coached Ss.

A seventh method for successful feigning for those with an antisocial personality disorder (APD) diagnosis is to score significantly higher than normal on the MMPI-2 infrequency, psychiatric infrequency, and F-K validity scales, as well as on the personality assessment

inventory (PAI) Negative Impression Management index, and the structured interview of reported symptoms (SIRS)-2 overall score. The key finding here is that despite their significantly higher scores, less than half of the participants with APD were classified as malingerers (Kucharski, Falkenbach, Egan & Duncan, 2006; Kucharski, Kucharski, Duncan, Egan, & Falkenbach et al. 2006). In a more recent study, Pierson, Rosenfeld, Green, and Belfi (2011) found that those Ss with APD were not more likely than controls to be identified as malingering. The conclusion of these authors is that despite the common association between APD and malingering, such a relationship was not suggested by controlled investigation.

Higher general intelligence as an eighth factor is associated with successful malingering compared to those lower in intellect. Steffan, Morgan, Lee, & Sellbom (2010) found this relationship with correctional inmates on the Basic Personality Inventory using the Shipley Institute of Living Scale as the measure of intelligence. Grieve and Mahar (2010) found that Ss were able to successfully fake mild, severe, and no depressive symptoms, but that emotional intelligence and general intelligence did not impact their ability to fake.

As a ninth factor, psychopathy under some conditions is likely related to the propensity to successfully fake conditions. Hare (2003) reported from his series of investigations culminating in the widely cited psychopathy checklist—revised (PCL-R) that a psychopath with anti-social personality traits may be more likely to malingering than the socially oriented psychopath who relates well to people, at least initially. However, the latter type of psychopath may be more successful at attempts at deception when they occur. There is often a negative bias, however, in that Kucharski et al. (2006) noted a confirmatory bias against psychopaths leading to false positive categorizations. Forensic professionals, to avoid this bias, should explicitly use the criteria in objective measures, such as the PCL-R (Hare, 2003) in order to derive scores, which are then compared to norm groups as part of a forensic evaluation.

As a tenth factor leading to successful malingering and deception in general is examiner overreliance on interview data compiled during the forensic evaluation. This gives the faker the advantage. For example, in deciding who and what to believe in evaluating possible psychopaths who present favorable background information on themselves that is at variance with legal and medical records, Hare (2003) instructs the user of the PCL-R to take background materials as ground truth. Failure to follow this decision rule will likely lead to false negatives regarding malingering and critical issues, such as violence risk and severity of psychopathy.

In general, and at this state-of-the-art, there is no escape from compiling a large database to uncover both intentional and unintentional distortion and deception among civil litigants. One important database source is base rate information regarding specific complaints. It is also important to consider pretrauma risk factors known to predispose, and/or exacerbate, post trauma events. The FDA model suggests that any combination of reliable and valid methods—structured interviewing, standardized testing, observation, and base rate comparison—can be utilized in order to generate sound and replicable conclusions.

IMEs and deception: The Independent Medical Examination (IME) is almost always paid for by the employer's (profit-driven) insurance company. This is a key flaw that almost guarantees bias whether or not the IME evaluator intends to distort results. Waialeale and Masui (2011) note that in Hawaii, as in most other of the 37 states that do not allow freedom to choose the IME evaluator, a small group of reliably biased physicians are repeatedly hired by the employer and repeatedly endorse the insurance companies' positions against the injured worker to "cut off temporary disability, deny medical

treatment, and deny work connection, most commonly by alleging poorly documented or non-existent pre-existing injury of medical conditions, refusal to diagnose documented injuries, or declaring needed treatment as unnecessary.”

They add: “Enriched [is] this small group of physicians by lack of scrutiny or limitation on the amount paid for examination reports at rates which are multiples of fees limited to the Medicare fee schedule for treating physicians. (One physician reportedly earned \$1,000,000 in one year for his reports for HEMIC, and others are known to limit their practice exclusively to such work).” Again, this broken system is not confined to Hawaii.

The IME evaluator is generally protected from alleged bias even if that bias is established. The Delaware Supreme Court affirmed a lower court’s ruling that an IME physician’s bias, “even if established, does not constitute fraud” (Balaguer & Imbrogno, 2017). In this Delaware case, *Adams v. Gelman* (March 21, 2016), the court held that “even if the IME/DME physician was biased in favor of his payor [the insurance company], he had no obligation to disclose that bias to his examinees because there was no fiduciary relationship between the claimant and the physician.” In essence, the court opined that there is no physician-patient privilege in these types of cases. The *Adams v. Gelman* case held further that the IME physician’s actions are protected by the legal principle of witness immunity. The plaintiffs presented copious documentation and testimony alleging that the defendant-physician had the worst reputation for pro-insurer and anti-claimant bias among doctors in Delaware. All of his 75 IME reports, the complete collection of his reports, were “overwhelmingly favorable to the insurer’s pecuniary interests, and correspondingly unfavorable to claimants.” And: “On information and belief, the insurance industry has paid [the defendant-physician] over \$13 million in exchange for opinions he has rendered in connection with IMEs, DMEs and medical records reviews. A33.”

William Lawson, Esq., a personal injury attorney in Honolulu, Hawaii (2018; <https://www.lla-hawaiiaw.com>) explains the reciprocal interplay of a lucrative income and the development of bias:

An enormous income stream becomes the reward-and the curse-of these doctors. Once a doctor has converted to the dark side, the insurers can cut the doctor’s earnings off overnight if the doctor writes a report that an insurer believes is overly favorable to a claimant. Since the choice of which DME doctor is used on a case is a choice which is completely within the control of the insurance companies and the defense attorneys who work for them, doctors who do not perform as expected are relegated to blacklist status overnight. After writing a report favorable to a claimant, a DME doctor will be shunned by all insurance companies-ending their ongoing \$500,000+ a year business overnight. DME doctors are aware of this risk and most form their “opinions” and write their reports to avoid it.

Having practiced in Hawaii since the 1970s with criminal-forensic, but also civil-forensic cases, the senior author can attest to the general accuracy of Lawson’s analysis. Lawson goes on to provide a list of recommended physicians and psychologists, as well as a separate list of those IME evaluators who are regarded as insurance company doctors (no psychologists were on this list). It should be noted that attorneys for the insurance company help decide which evaluators should go on the blacklist or are deemed acceptable.

It is the opinion of the authors that the problem of bias as described applies to other types of civil evaluation—no-fault cases, personal injury, social security, testamentary capacity, and other forms of tort litigation. Greed and fear of losing an income stream is paramount on the part of some civil-forensic evaluators. As we shall discover, some types

of evaluations are structured where bias is less likely. These include, but are not limited to, police and radio dispatch selection, VA PTSD C&P exams after a new system was imposed in 2010, and court-ordered criminal-forensic evaluations.

Obtaining an attorney in workers' compensation cases is almost always necessary to obtain balanced results. Many civil attorneys are aware of the pitfalls and prepare their clients prior to the IME and thus may circumvent the intent of the court to have an objective evaluation. Sometimes this advice increases the probability of malingering on the part of their client. Typically, they are told to never lie, as prevarication will destroy a case. Robert Dufour (2017) of the Van Pelt and Dufour Law Firm in Georgia recommends extreme caution when the client attends his or her (obligatory) IME exam from the opposing side's mental health professional. Dufour (2017) recommends that the client seek psychological care when appropriate as depression/anxiety in particular usually accompany a serious body injury with impaired work status. Pain management therapy is highly recommended, if a pain-related condition is part of the symptomatic picture, even if the worker has to pay for it out of private funds. The additional cost is held to increase settlement value (almost all WC and PI cases settle if they continue sufficiently long). Other suggestions include never refusing medical procedures, even if unwanted surgery is recommended, based on the idea that the recommendation of expensive surgery adds to the settlement value even if it is not undergone. Dufour (2017) recommends that the proper response is "I will think about it." He admonishes his clients: "Don't tell the doctor that you 'feel good.'" Instead tell him or her that your pain is severe at every appointment, if true. The client is told not discuss any hobbies that may turn into a job, based on the notion that "the doctor needs to think you'll be out of work for years to come." Dufour (2017) recommends that the injured worker should ask for a hearing when "your case has been sitting on a back burner and you can't get the adjuster to evaluate it for a settlement."

Cynthia Hennessey, registered nurse and WC/personal injury attorney (2018; www.cmhlawfirm.com/) echoed many of Dufour's cautions: "The Insurance industry and business groups are hard at work lobbying our lawmakers to stack the laws in their favor. They fight and defend every case, in order to save a dollar." Highlighting the near absolute need for the claimant to hire an attorney in WC cases, Hennessey (2018) pointed out the need of the attorney to understand the anatomy and physiology of the injury as well as obtaining all medical records, scans, tests, raw notes, and other documentation from assessment or therapy. Adequately preparing for a deposition and the many legal hurdles thrown in the path of the claimant almost certainly requires legal expertise beyond the knowledge of typical claimants. A primal mistake, in the authors' opinion and directly expressed by both Hennessey (2018) and Dufour (2017), is for the claimant himself or herself to attempt to set up medical and psychological IME evaluations in support of their WC and attempt to gather all the necessary records.

Objections by injured workers or their attorneys to unfair practices by the insurance company and defense attorney are routinely ignored. If anything, as shown by Waialeale and Masui (2011), there has been an increased use of aggressive insurance tactics, such as denials for claims with definite medical cause, deliberate delays, and even attempting to recoup monetary losses from the claimant if the WC hearing finds for the injured worker.

Aggressive tactics by insurance companies and their WC defense attorneys which have been supported by lower court decisions include refusal of a plaintiff's request to instruct the jury that the plaintiff's motives for pursuing the lawsuit were immaterial to the merits

of the negligence claim (*Medeiros v. Choy*, 2018, Certiorari to the Intermediate Court of Appeals). This case arose out of a 2007 car collision, where the jury found by special verdict the defendant-insurance company was not the legal cause of the plaintiff's injuries. This decision was based on the plaintiff changing the circumstances of her statement, which although did not change the nature of the injuries or their severity, showed, according to the defense attorney, that she definitely wanted to litigate this matter for damages and was therefore biased. The appellate court ruled in favor of the plaintiff.

In the authors' opinion, for accuracy and impact, the claimant should make every attempt to have the IME doctor-assessee process videotaped. But decisions on whether it can be recorded must be decided by the trial court on a case-by-case basis (*Jacob v. Chaplin*, 1994). However, this Indiana district court unequivocally opined that the IME "begins with a presumption that the 'expert retained to conduct the examination is professional, independent and objective, as opposed to an agent or advocate for the side that retained him'". *Jacob v. Chaplin* (1994) noted that medical examinations generally are not videotaped, as many physicians simply refuse to conduct the evaluation. There is an explicit assumption that the IME uses valid methods of assessment, which adds to the burden of these evaluators and explains why in the court's view there is a reluctance for IME evaluators to be monitored. Sidestepping the issue further is the flawed legal observation that generally "there is no video camera or other recording device at the examination" (*Newman v. Gaetz*, 2010).

The claimant is not considered defenseless by the courts, as he or she has the right to take the deposition of the IME evaluator. If it is determined that the doctor has questioned the plaintiff improperly, the evidence may be excluded at trial.

Attempts at civil litigation reform have failed or have been temporary at best. In 2011, in Hawaii following failed attempts in other states, a bill allowing a one-time automatic referral for consultation and diagnostic testing without insurance carrier approval was vetoed by former Governor Linda Lingle and the legislature refused to override the veto.

Proposed reforms have noticeably been weak regarding the pervasive problem of bias in the IME system. Weak reforms are generally supported by civil litigation attorneys, particularly, but not exclusively, defense attorneys, insurance companies, employers, and the evaluators themselves. In 2013, for example, Oklahoma joined Texas in making WC non-compulsory by offering alternative benefits, while still keeping their protection from lawsuits. In *Vasquez v. Dillard's Inc.* (2016), the Oklahoma Supreme Court ruled this non-compulsory WC system was an unconstitutional special law that denied equal protection to injured workers, but actually benefitted the existing system allowing for bias. Finally, it appears clear there is little chance WC systems across the states will be substantially changed, for example, removing the wide disparity in benefits, since there is *no* federal requirement for states to have WC and therefore no minimum universal standards have been formulated.

In closing, the forensic professional should be aware that there is a broken system driven by monetary motives, in regard to how IMEs are referred, conducted, and utilized. Bias as shown by refusing to render unfavorable findings against the retaining third-party carrier can and does fatally flaw forensic evaluations on both pragmatic and moral grounds. The civil court, insurance companies, and evaluating professionals continually reinforce this interlocking system by refusing to insist on objective, reliable, and valid evaluation in favor of profit-driven incentives and unfair tactics to limit medical services to clients. The professional mental health associations have largely been silent on these issues.

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Malingered Neuropsychological Deficits 12

Introduction

Professionals attempting to understand faked brain damage often do not appear to be aware of the emerging state-of-the-art or their own relative lack of knowledge relative to forensic neuropsychological settings and situations. This is in spite of the almost 100% increase in weekly hours of forensic consulting by neuropsychologists just in the last decade or so (Kaufmann, 2016).

The ethical and methodological implications of malingering cerebral injury in particular are continually evolving. The revised *Specialty Guidelines for Forensic Psychology* (2013) clearly indicates that neuropsychologists who engage in forensic consulting are practicing forensic psychology. Although the *Specialty Guidelines for Forensic Psychology* is considered aspirational in nature, they should be reviewed prior to performing forensic work. The authors have known of experts who were cross-examined on the contents and process of forensically based ethics, and whether they abided by the recommendations and caveats in those guidelines. Several of the ill-prepared experts met with adverse consequences in the form of court admonitions, losing the case for the side that retained them, or having their testimony struck.

Standard neuropsychological training is *not* sufficient to detect faking or develop forensic expertise in spite of the usually high confidence neuropsychologists place in their own opinions. Kaufmann (2016) noted in his review that a minority (46%) of post doctoral fellows received some forensic training. Attending a few workshops in forensic aspects of neuropsychology or, more generically, training in a few tests of suboptimal performance or malingering, or a particular battery of neuropsychological tests with embedded measures of malingering, is likewise not sufficient to become proficient in the core forensic skills to adequately assess faked brain damage. The expert qualification phase of civil and criminal trials will test the mettle of most forensic professionals and is discussed in detail in a later chapter.

Since the classic Heaton, Smith, Lehman, and Vogt (1978) showing that neuropsychologists cannot reliably detect faked brain damage, with ten neuropsychologists performing at chance levels to 20% above chance, thousands of studies of malingered neuropsychological deficits have been published (Martin, Shroeder, & Odland, 2015). Available measures are imperfect, but, nonetheless, qualified use can lend credence to expert witness testimony. Measures published in peer-reviewed sources based on sound methodology with empirical validation leading to sound outcomes are most promising and are likely to meet Daubert standards. Unless the mental status examination utilizes empirically grounded methods, derived findings will have less validity. Reliance solely on “clinical impressions” regarding

the accuracy of an examinee's test performance, even with the extensive review of records, is not adequate to evaluate malingered organic deficits.

The Heaton, Smith, Lehman, and Vogt (1978, p. 900) also study contains a statement which remains true to the present:

On virtually all ability tests, the subject is told what is required in order to do well. At the same time, it usually becomes obvious what a bad performance entails, for example, be slow, make errors, fail to solve problems. Therefore, neuropsychological tests would seem intrinsically vulnerable to faking.

Although this holds true for sensory and mental status evaluation by neuropsychologists and psychiatrists, the courts have generally held neuropsychological testing in high esteem (Ziskin & Faust, 1988). Yet neuropsychologists need to learn that their training poorly prepares them for deception analysis. Neuropsychological tests can and have been faked, and it is quite possible (and even likely) that those most prone to faking may have some genuine impairments. The question is not simply one of either faking or non-faking; rather, the two co-exist in many cases. Likewise, in actual clinical practice, genuine symptoms may be distorted and/or exaggerated in intensity, frequency, and duration. (Zielinski, 1995)

Psychologists' and neuropsychologists' training does prepare them, however, to read the empirical literature and apply statistical guidelines in order to keep abreast of developments within their particular areas of competence. In the opinion of the authors, expertise in any specialty area of psychology requires approved course and practical application-based study of usually one or two years. The training should be of such caliber as to lead to successful completion of the requirements for board certification by examination. To date, the American Board of Professional Psychology has the most rigorous and time-tested standards for demonstrating expertise in psychology specialty areas.

Credentials aside, the assessment of malingered neuropsychological deficits is difficult for several reasons. To begin with, in spite of considerable research, there is little support from past studies for any type of "malingering profile" on neuropsychological tests (Franzen, Iverson, & McCracken, 1990; Hall & Thompson, 2007; Heubrock & Peterman, 1998). For this reason, the reader is advised to follow the model of deception outlined in [Chapter 3](#) in terms of determining targets, response styles, and measures and methods of deception detecting (Hall & Poirier, 2002; Hall, 2008). An additional consideration is that this chapter applies to both civil and criminal cases in terms of the key factors that are relevant to deception in neuropsychological testing and testimony.

Wasyliw and Cavanaugh (1989) pointed out that to prove a "brain damage" personal injury case, the evaluator must demonstrate: (a) the presence of cerebral compromise, (b) damages in the form of behavioral, cognitive, or affective deficits, (c) a connection between the deficits and the cerebral compromise, and (d) a causal connection between the impairment and the allegedly tortious incident. Refutation of any of the four elements is sufficient in their opinion to negate the total claim. Of course, this is a legal opinion rather than one held by mainstream forensic neuropsychologists or physicians, as discussed earlier, in that some brain injured individuals may exaggerate real deficits or have an undemonstrated connection between alleged deficits and the tort-related incident.

The reasoning from these classic studies relevant to civil claims may apply to criminal trials.

The same legal requirements on the part of the defendant are found in criminal-forensic neuropsychology. To demonstrate mental incapacity due to brain impairment

under the American Law Institute Standard of insanity, for example, the neuropsychologist must: (a) diagnose an organic mental condition operative at the time of the instant offense, (b) demonstrate a cognitive and/or volitional impairment at the time of the alleged crime, and (c) connect the mental condition to the cognitive and/or volitional impairment in the nature of cause and effect. Refutation of any of these three factors suffices to disprove insanity.

Base rates of malingering: Traditional individual neuropsychological measures have not been very useful in accurately discriminating malingerers—either adults or children—from individuals with genuine brain impairment (Greiffenstein, Baker, & Gola, 1994; Faust, Hart, & Guilmette, 1988a, 1988b). A meta-analysis by Mittenberg, Patton, Canyock, and Condit (2002), the largest N to date based on 33,531 cases, showed malingering to occur in certain types of cases as follows: 29% of personal injury, 30% of disability, 19% of criminal, and 8% of medical subjects. Base rates for geographic regions or practice settings were non-significantly different, but related to plaintiff versus defense referrals.

Some studies reported high rates of malingering for cognitive impairment, some as high as 40% in mild traumatic brain injury (TBI) litigation examinations (Berry & Schipper, 2008). Ardorf, Denney, and Houston (2007) found for criminal pretrial cases using the Slick and Sherman (1999) criteria, that only about 19% of the cases did not show malingering, 27% of cases showed “possible” malingered neurocognitive dysfunction, 32% were “probable” malingered neurocognitive dysfunction, and 22% were “definite.” This adds up to an 81% possible-to-definite malingering rate. Clearly, something is wrong, which is discussed later. Van Hout, Schmand, Wekking, and Deelman (2006) found that an astounding 57% of subjects with neurotoxic injury failed at least one out of three symptom validity tests. The overall range of 40% plus or minus 10% was accepted as the base rate in settings with an external incentive (Larrabee, 2009). At first (and second) glance, these are extraordinarily high rates of malingering.

Slick’s et al. (1999) model and findings were strongly criticized by Rogers and Gillard (2011) on methodological grounds. Supporting this, the Rogers, Bender, and Johnson (2011) investigation noted that the Slick criteria were potentially biased toward findings of malingering. In response, Slick and Sherman (2013) revised their criteria, removing problematic language, for example, and increasing the indicators for malingering.

The last several years have seen a more reasonable and methodologically refined approach, resulting in lower base rates for malingering in neurocognitive evaluation. The Advanced Clinical Solutions scoring package of the Wechsler Adult Intelligence Scale, 4th Edition (WAIS-IV) and Wechsler Memory Scale-IV, as utilized in primarily forced choice subtests within these measures, for example, was developed to detect suboptimal cognitive performance (Holdnack, Millis, Larrabee, & Iverson, 2013). Conditions and characteristics of possible fakers who scored below the 5% clinical cut-off taken from the Advanced Clinical Solutions Clinical and Interpretative Manual included TBI (9%), schizophrenia (15%), intellectual disability—mild (38%), autistic disorder (23%), and mathematics disorder (14%). High risk groups for suboptimal performance included those persons with 8 years or less education (15%), African American or Hispanic ethnicity (5% and 6%, respectively), and those with a General Ability Index of 69 or less (19%) or in the 70–74 range (7%). It should be noted that the relatively high rates for mild intellectual deficit and autism likely contained confounds. It was recommended that ACS scores should be obtained along with other indicia of malingering before conclusions relevant to faking are proffered.

The high base rates may have been due to various factors, such as whether malingering was studied within a clinical or forensic population, different types of operational definitions of malingering, the statistics utilized, and the inappropriate use of cut-offs which then force dichotomous-based conclusions. As the chapters on malingering in civil-forensic contexts point out, previous estimates of malingering, particularly in civil litigation when standardized, reliable, and valid testing is not utilized by examiners, the base rate of malingering may be inflated due to an unknown degree of bias on the part of evaluators chosen by insurance companies to generate favorable findings for the referral source. The authors have known of forensic evaluators who avoid normalized testing because they did not wish to be locked into a structured decision analysis and set of conclusions.

Studies reviewed by Bender and Frederick (2018) suggest that previous estimates of malingering relied on overinclusive criteria, frequently adding “possible” and “probable” malingering to the overall rate, and that more definitive criteria yield a lower base rate. This observation, as stated in the introduction, is in line with the most comprehensive review of malingering base rates to date, which found that the true base rate of malingering in forensic context is likely to be 10%–20% (Young, 2015). The controversy goes on.

History: Faking cerebral dysfunction has a long history. In civil law, faking central nervous system damage is discussed by Miller and Cartlidge (1972):

Simulation and accident neurosis following injuries to the head and the spinal cord on a large scale are really disorders of the Industrial Revolution. Attention was first directed to them in Prussia, where the introduction of a national railway system evoked the first accident-insurance laws in 1871 and 1884. Within a few years professional attention was drawn to the frequency with which malingering was encountered in civilians claiming severe disablement after minor industrial injury, and to the importance of financial gain as a motive. In Britain an exactly similar situation followed the Employers Liability Act of 1880 and the Workmen's Compensation Acts of 1898 and 1906. The epidemic of functional complaints that arose as a byproduct of this socially admirable legislation attracted the attention of many of the most eminent neurologists of the period. In less sophisticated hands it led to the creation of a group of new syndromes such as railway spine, which enjoyed a remarkable vogue for a few decades, until the courts tumbled to its nature and it promptly disappeared.

Subclinical pathology has been often underdiagnosed or regarded as faked (Boll, 1985; Parker, 1990, 2011). The post concussive syndrome, for example, is commonly mistaken for “compensation neurosis,” a polite term for faking, despite the cluster of symptoms that appear with regularity whether or not economic gain is realized (Binder, 1986). The cluster of post concussive symptoms includes headache, labile behavior, concentration problems, sleep disturbances, and diffuse residential effects. Normal people under high stress may also show organic brain syndrome (OBS)-like symptoms. Subsequent deficits remit quickly as the stress is eliminated.

In summary, malingering brain damage has long been recognized in both civil-forensic and criminal-forensic settings, despite an early belief that neuropsychological tests could not be malingered (Hart, 1995; Heaton, Smith, Lehman, & Vogt, 1978; Ziskin & Faust, 1988). This acceptance of the non-fakability of tests occurred at a time when neuropsychologists were being granted expert witness status *Jenkins v. United States* (1961) and *Buckler v. Sinclair Ref. Co.* (1966). Currently, the role of the forensic neuropsychologist remains crucial to the understanding of cerebral dysfunctions in plaintiffs and defendants in civil settings.

Targets of malingering: In an insightful historical note on targets of malingering, Freedland (1982) stated:

The fear of getting caught may also affect the selection of faking criteria. This occurs for two different reasons. First, mild deficits are easier to fake than severe ones; therefore, a mild faking criterion is less likely to be questioned by an examiner. Second, choices of criteria may be influenced by the effects they will have on the patient's lifestyle. For example, fake unilateral deafness is seen more often than fake bilateral deafness. Bilateral deafness might merit a larger compensatory settlement, but the patient wishing to avoid later charges of fraud might have to feign total deafness indefinitely. Unilateral deafness is worth less money, but the patient is able to engage in most of his or her favorite activities without arousing suspicion.

The percentage of targeted medical conditions isolated in the meta-analysis by Mittenberg, Patton, Canyock, and Condit (2002), were as follows:

- 39% mild head injury
- 35% fibromyalgia/chronic fatigue
- 31% chronic pain
- 27% neurotoxic cases
- 22% electrical injury claims.

Although the percentages for the above disorders may be inflated due to definitional and methodological factors, as discussed above, the Mittenberg, Patton, Canyock, and Condit (2002) findings do point out the variety of organic targets selected by individuals in civil settings.

In general, the professional attempting to understand faked brain injury for a particular person must realize that targets themselves are cognitive events which are non-verifiable in nature, but nevertheless form a discernible pattern.

Thus, for the first part of the model utilized in this book, the basic questions are:

- Does the individual have a motive for faking?
- What are the most likely targets of deception?
- Is there a history of selecting these targets for faked events, behaviors, or circumstances?
- What is the reinforcement history of selected targets, and what are other causative factors for choosing these targets?

Response styles: Response style strategies fall into several specialized categories—honest responding (no deception or insignificant distortion), faking good, faking bad, invalidation, combination, and fluctuating styles. In an early study using the Halstead-Reitan Neuropsychological Battery on 52 brain-impaired patients and 202 normal subjects, Goebel (1989) found the following response styles for faking from debriefing his 141 faking subjects:

- Slowing performance or looking confused (36%)
- Giving the wrong answer (30%)
- Showed motor incoordination (14%)
- Simulating memory impairment (2%)

Ignoring stimuli (2%)

Changing emotional state (1.5%)

Stuttering (0.5%)

The following is a list of specific behavioral patterns and signs that fakers may show in attempts to feign believable deficits on neuropsychological evaluations (Craine, 1981, 1990; Hall, 1985, 1990, 2008; Hall, Poirier, & Thompson, 2007). The patterns and signs also apply to malingering in other contexts and settings, and with psychologically based conditions.

1. Present realistic symptoms. A deceiver is likely to employ a “common sense” or “popular” schema of what brain damaged persons are like and will select symptoms which accord with that idiosyncratic view. Although the symptoms may appear realistic from the faker’s usually unsophisticated point of view, the competent expert evaluator will have a more objective and detailed view of authentic neurological symptoms and malingering criteria
2. Distribute errors. Many fakers tend to make a deliberate number of mistakes throughout the evaluation rather than miss only difficult items. A balance is sought between appearing fully functional (missing too few items) and appearing too impaired (missing too many items). Fakers attempt to control their errors as much as possible, but, in practice, they fail to maintain a “realistic” percentage of errors
3. Protest that tasks are too difficult and/or feign confusion and frustration. The faker may feign confusion, anger, or other emotions superimposed upon adequate task compliance. For example, a 22-year-old man attempting to obtain a Workers Compensation (WC) settlement was observed by the neuropsychological technician on the Tactile Performance Test as follows: (total time = 21.9; memory = 5; and localization = 1): Constantly complaining—“It’s too hard” ““This is too much’—Rt Block in hand—moving block over board—doing some exploration of spaces—getting fairly good messages—after 1st block inserted. Began to explore the whole board—getting fairly good messages but taking a lot time locating the correct block, thereby losing the location & needs to start again feeling the spaces.” States: “I get disoriented.”
4. Perform at a crudely estimated fraction of actual ability. Speed may be deliberately decreased. The faker is generally knowledgeable of his/her true rate of responding, but may decide to show a partial performance. The following evaluation note illustrates this point for a 35-year-old man who claimed he was exposed to a neurotoxic agricultural chemical:

The scores obtained on the neuropsychological battery would be compatible with a diagnosis of brain dysfunction, except that we have some grave doubts as to how motivated Jim was for these particular tests. He appears to have adequate fine motor speed, for example, but when he is given a test of finger dexterity (manipulating small pegs), he is noted to purposely work very slowly in order to appear somewhat damaged in this respect. On most tasks that required speed, this client was noted to purposely work quite slowly in order to give a poor picture of his abilities. It may well be that he does have some minor brain dysfunction, but once we have noted that he has purposely performed poorly on some of these tests, we have serious doubts as to the legitimacy of any of the scores we obtained after that point.

5. Showing failures on easy test items. The WAIS-IV items, for example, generally progress from easy to difficult. Fakers may try to distribute their errors throughout the subtest (or battery), not realizing that, for some tasks, successive items increase in difficulty. Failure on easy items also occurs on graduated forced choice tests. Deliberate errors are made on the (easy) items to which the answers are known. Random responses may occur when the faker encounters (difficult) items to which the answers are unknown. This means that the point between the known (and deliberately faked) items and the unknown items is very difficult to estimate. The evaluator needs to weigh missed easy items more heavily than mistakes on difficult items
6. Exhibiting an extreme affective style. Many types of head trauma produce changes in characteristic affective styles, especially when sites in the anterior region of the brain are compromised. Stroke patients are a common example, and many laypersons have experienced elderly family members who have suffered strokes. Following trauma, there can be a generalized blunting of affect, increased or decreased affective sensitivity, loss of affective discrimination, and, in some cases, increased propensity for anger and rage and other frontal signs. Deceivers may employ changes in affect as a part of their malingering strategy. This can be an exceedingly difficult response style to detect, but is one more pattern of which the forensic clinician must be mindful. A telling clue may be if the subject demonstrates loss of prior ability to identify deceptive emotion in others. In a study with brain-injured children, Dennis, Barnes, Wilkinson, and Humphreys (1997) found inability to identify deceptive emotion to be associated with head injury at an earlier age and frontal lobe contusions. The authors distinguished between emotions as felt and emotions serving as a cognitive framework for understanding the actions and mental states of others. A variety of studies show that the ability to detect deception behavior and emotion in others remains poor to this day (Schafer, 2017)
7. Showing abnormalities in motor performance. These behaviors are observed on examination, particularly incoordination, weakness, and decreased range of motion, not associated with supporting or confirmatory signs (atrophy, reflex changes, abnormal tone, automatic compensatory actions, etc.). Often such abnormalities will be present when the patient perceives the performance is being specifically tested, but absent when the performance is part of a larger, more spontaneous action, or when the patient's attention is distracted. A common example is the patient who, while standing with heels together sways wildly when asked to close his/her eyes (the Romberg sign). Yet the patient does not sway when asked to close the eyes in the same standing posture, but is distracted by doing rapid alternating finger-to-nose movements. Another common example is the patient who demonstrates marked weakness of some muscles (or muscle groups) when they are tested individually, yet shows no dysfunction in using the same muscles during other parts of the examination, or in dressing, etc., when the examination is "over." Such performances may suggest hysteria or malingering, but by themselves alone do not warrant a diagnosis of either. Unless such diagnoses are confirmed by more positive and definitive findings, it is best not to speculate, but simply to report the observed discrepancies when all data are collected

Generally, the apractic patient will attempt the movement, but cannot complete it, and appears perplexed and frustrated. It is as if he/she has “forgotten” how to do the act. Simpler voluntary and associated movements may be normal, and individual muscles (or muscle groups) are not affected. As with aphasia, apraxia is worsened by fatigue and improved by the presence of environmental clues. In addition, as with aphasia, the type and degree of apraxia observed depends in part on the methods by which it is sought

8. Faking epilepsy. A comparison of epileptic seizures with faked seizures, termed “pseudoseizures,” (Roy, 1989) illustrates the strategy of evaluating faked seizures. Generally, persons who “pseudo-seize” compared to those with epileptic seizures have: (a) a greater history of other relatives with mental illness; (b) a greater personal history of psychiatric disorder, including attempted suicide and sexual maladjustment; and (c) more claimed health problems, depression, anxiety, and an increased likelihood of an affective disorder (Roy, 1989). Pseudoseizures are sometimes superimposed on a history of epileptic seizures, diagnosed from aberrant electroencephalogram (EEG) activity showing neuronal misfiring. This accords with studies that show that simulation of brain and spinal cord injuries are frequently superimposed on tangible organic pathology (Miller & Cartlidge, 1972). Morgan, Manning, Williams, and Rosenbloom (1984) discovered disparities in eight (child) patients between the clinical description and frequency of seizures at home versus school. Fabrication of seizures began for some as early as age 5.

Our neuropsychological understanding of pseudoseizures has changed in the last several decades in regard to possible malingering. Despite the “pseudo” portion of the term meaning false, pseudoseizures are now seen as real as epileptic seizures, caused primarily by psychological conditions, and renamed “psychogenic nonepileptic seizures” (Griffith, Szaflarski, Schefft, Isaradisakul, Meckler, & McNally, 2007).

Detection strategies: Detection methods and measures associated with faking brain injury are increasing and add to a large cumulative base (Craine, 1990; Rogers & Bender, 2018). These include, among others: (a) lack of neurological fit; (b) searching for patterns of failures on easy items; (c) administering easy versus difficult versions of similar tasks; (d) searching for departures from expected levels of accuracy on forced choice tests; and (e) examining for test inconsistencies, and (d) test cut-offs and patterns.

Lack of Neurological Fit

The question of neurological fit revolves around whether reported history, presenting symptoms, or responses on neuropsychological tests make sense compared to what is known about the functional neurological systems involved. For single items or symptoms, does the assessee present signs which do not make sense neurologically, such as glove amnesia or hemiparesis ipsilateral, to a supposedly involved hemisphere? On multidimensional tests, does the assessee produce a pattern of scores (profile) that is consistent with a known neuropsychological syndrome?

Another strategy is to compare the test profile of the assessee with that of a closely matched comparison group from the research literature. Look for a goodness of fit between

the claimant's profile and that of either "genuine" or "faking" research groups reported in the neuropsychological literature (see Hall, Poirier, & Thompson, 2007).

The following case illustrates the above detection method for a 45-year-old taxicab driver involved in litigation after an accident.

Malingering in this case was diagnosed based upon the following:

1. On the WAIS-IV, he obtained a VIQ of 65 and a PIQ of 70. Several years before, he achieved an FSIQ of 110 with comparable verbal and performance abilities. No traumatic events occurred in the interim
2. On an auditory discrimination test, he obtained a score equal to that of a six-year-old child. Upon retesting with a parallel form one hour later, he obtained a normal score, showing a 300% improvement
3. On a memory test, he displayed an inability to remember his age and the institution and city in which he was evaluated, responses obtained by less than 1% of the normative sample
4. He obtained the minimal possible score on a test tapping visual, logical, verbal, and other kinds of memory. This score is compatible with such conditions as severe diffuse brain damage, but not with the memory skills the accused clinically demonstrated outside the test context
5. He obtained a score on a forced choice scale designed to test deception that was compatible with recognizing the visual stimulus, but choosing not to report it
6. Records reflect that he previously faked brain injury while being tested for cerebral impairment similar to that claimed in the present case

In this case, the lack of fit between expected neurological performance and (1) presenting symptoms and (2) obtained test results, revealed so many inconsistencies that the cumulative weight of the evidence supported a diagnosis of malingering

Retesting or Comparison Strategies

1. Easy versus difficult versions of similar tests can be employed to detect malingering. The faker may not understand that a second testing may be easier or more difficult than the first. Thus, fakers may perform similarly on the two versions, whereas non-fakers would perform differently.

As a simple example, the Dot Counting Test has been found to discriminate fakers from genuine responders (Boone et al., 2002). The Boone et al. (2002) study found 100% mean sensitivity in a forensic suspect effort group and 75% sensitivity for a civil litigation/disability group, while maintaining specificity of 90% or more for the groups combined (excluding the dementia group). Cards A, B, and C (consisting of massed dots) are more difficult to count than their counterparts, cards D, E, and F (consisting of clusters of dots), even though the two sets have the same number of dots. Administration of the two sets of the Dot Counting Test may yield such inconsistent results, as determined by hit rates, that only a conscious attempt to control performance can explain them. More recently, Robles, Lopez, Salazar, Boone, and Glaser (2015) examined a sample of 115 young to middle-aged, poorly educated, monolingual Spanish speakers of low socioeconomic status (SES).

They found that the Dot Counting Test performance—as well as the Rey-15 Item Test and the Rey Word Recognition Test—was relatively robust to cultural/language/educational factors, and that mean scores matched United States samples.

Caution should be exercised, however, in deciding that failures of “easy” items or tests are more characteristic of deliberate distortion than of genuine responding. Whether failing more “easy” items than “difficult” items on a particular test is indicative of “faking bad” is, despite its commonsense appeal, always an empirical question, and the reliance on hit rates may obscure the dimensional nature of the performance. Regarding scatter, the distribution of intratest scatter among normal subjects, genuinely impaired subjects, and “faking” subjects must be explicitly compared in order to determine the usefulness of intratest scatter as an indicator of “faking.”

2. *Parallel testing.* Repeat administrations of the same test or administration of a parallel form of a test should yield similar performances. The faker may not understand that a repeat of the test will be given and, therefore, may have difficulty replicating the previous performance. Faked scores in general are less stable than genuine scores (Rogers, Vitacco, and Kurus, 2010).
3. *Deviations from predicted scores.* The evaluator can compare the performance on predicted scores on a test with the actual performance on that test. Previous research has utilized regression equations to predict WAIS-R scores from scores on the Shipley-Hartford Institute of Living Scale (Zachry, 1986; Weiss & Schell, 1991), Ravens Progressive Matrices (O’Leary, Rusch, & Guastello, 1991), and the National Adult Reading Test (Willshire, Kinsella, & Prior, 1991). More recent work reinforces this approach; for example, the concurrent validity of the Shipley-2 and the WAIS-IV, and correlations between subtests of the two measures, showed a very strong association (Lodge, 2012). A faker’s obtained score on the WAIS-IV, for example, is unlikely to fall outside the confidence interval predicted from one of these three other Shipley-2. Impaired non-faking subjects should obtain WAIS-IV IQ scores similar to those predicted by these two tests.

Failure to Show Learning

Fakers often do not show expected learning curves (or may even show deterioration) across repeated trials of a task. The Mirror Tracing Test (Andreas, 1960; Millard, 1985; Julius & Adi-Japha, 2016) illustrates this expectation. Faking may be suspected if the expected bilateral transfer of training (improved performance with the opposite hand after training with one hand) does not occur, if the expected improvement over trials (learning curve) is not apparent, or if the total time exceeds five minutes.

Departures from Expected Accuracy

Forced choice testing and forced choice reaction time testing provide powerful methods of assessing deception of deficits. These tasks are all so easy that even impaired persons should perform satisfactorily. Departures from expected levels of performance may provide a measure of a conscious attempt to manipulate performance. The Rey-15 Memory

Test is an example of a commonly used faking test, a forensic “booby trap,” where simple designs are presented for 10 seconds and the examinee is asked to reproduce them. The Rey-15 Memory Test (Rey, 1964) was originally designed as a screening instrument designed to identify malingered memory complaints. To the examinee, the measure initially appears to be more difficult than it actually is. The redundancy of simple character sets makes the memory task relatively simple, such that significant memory problems are necessary to generate actual deficit performance. There is a caution in using this test. Twenty years of studies (for a review, see Hart, 1995), mostly consisting of cut-off score refinements and adjustments, have indicated this test to be vulnerable to false positive findings. A relatively low sensitivity (47.7%) for malingerers was obtained, although confidence in correct identification was increased with very low scores (<5) and failure to recall at least 3 of the first 6 items (Martin, 2002). Specificity was also low for non-malingering pretrial patients (56.2%), while combined qualitative and quantitative methods for criminal malingerers was not more accurate than base rate prediction alone. For these reasons, it is not recommended that forensic professionals use this test even within a battery containing reliable and valid malingering devices.

Symptom Validity Testing

Symptom Validity Testing also called Explicit Alternative Testing (EAT) or forced choice testing in most cases measures faked sensory and recall deficits plus a variety of other claimed neuropsychological deficits (Grosz & Zimmerman, 1965; Hall, 2008; Hall & Shooter, 1989; Hall, Poirier, & Thompson, 2007; Pankratz, 1979, 1983, 1988; Pankratz, Fausti, & Peed, 1975; Theodor & Mandelcorn, 1973). EAT involves the presentation of stimuli whose perception or recognition is either affirmed or denied by the assessee. An interference period may be added if recall, rather than sensory perception, is the target of evaluation (see [Chapter 19](#)).

Almost no one should miss the presented items unless a genuine impairment exists. In the case of total impairment (e.g., total blindness or deafness), one’s performance should approximate chance responding (50% accuracy with two-choice tasks). A significant deviation from chance responding is defined as an accuracy score with a probability less than some specified level (e.g., $p < 0.05$ or $p < 0.01$) as determined by the binomial distribution. For example, the one-tailed binomial probability of obtaining less than 40 correct responses in 100 trials of a two-choice task is less than 2%. Achieving less than 36 correct answers would occur by chance less than twice in a thousand tests ($p \leq 0.0019$).

Fakers usually assume that impaired performance requires less than 50% accuracy. Persons genuinely impaired will usually guess randomly on EAT testing. Fakers do worse than chance because they intentionally suppress the correct answers on items to which they know the answers. Pankratz (1988, p. 185) explained the basic problem for the faker on an EAT task.

A 50% hit rate is expected from any patient who declares at the outset that he or she cannot perceive the test stimuli in a two-alternative procedure. The untruthful patient is in a dilemma when confronted with repeated trials. If he or she holds to the denial and tries to manage the impression of a disability, then he or she runs the risk of revealing too much. On the other hand, if the deceptive patient properly identifies the cues, he or she openly admits that the deficit is not as severe as first claimed. In most clinical situations, deceptive

patients “guess” wrong too frequently. Final results are often below the probabilities of chance. Even when the final score is within normal limits, the response pattern may be incompatible with the notion that the stimulus did not register at all.

The problem with EAT methodology is that it may be too conservative for some persons, possibly yielding false negatives. By considering as “faked” only those performances which are significantly below chance levels of responding, one is assuming that the person is attempting to mimic a complete loss of the tested function. For example, a completely blind person or a totally deaf person would respond with around 50% accuracy on a binary forced choice test, and performances significantly below this level would indicate an intentional underreporting of actual perceptions. Previous research showed that many subjects do not claim a total loss of function and therefore would not be expected to perform significantly below chance levels (Hart, Guilmette, & Elliott, 1991; Pritchard & Moses, 1992) or would be wrongly classified as a false negative (Bickart, Meyer, & Connell, 1991; Brandt, Rubinsky, & Lassen, 1985; Haughton, Lewsley, Wilson, & Williams, 1979; Iverson, Franzen, & McCracken, 1991). The chapters on deception analysis in Hall (2008) suggest this reasoning can be considered valid. Pritchard (1992) provided three alternative sets of interpretation rules that remain useful. One set compared the subject’s performance with chance levels based on the binomial distribution; a second set was empirically defined to maximize the positive hit rate (percentage of fakers who are called faking by the test); the third set was empirically defined to maximize the negative hit rate (percentage of non-fakers who are called not faking by the test). This combination of theoretical and empirical rules may prove more useful in actual clinical practice than the sole use of interpretations based on the binomial probability distribution.

The forensic examiner is strongly encouraged to utilize forced choice testing in a deception analysis. A typical neuropsychological battery has embedded forced choice formats to which can be added stand-alone tests of deception.

Objective Psychological Testing

The Minnesota Multiphasic Personality Inventory-2 (MMPI-2) has been a mainstay of neuropsychological test batteries (Lezak, Howieson, Bigler, & Tranel, 2012). The MMPI-2 provides the neuropsychologist with valuable information about the patient’s non-cognitive functioning to include behavioral, emotional, and psychiatric issues. Particularly useful in forensic circumstances are the traditional and special MMPI-2 scales designed to indicate response bias and malingering. Lamb, Berry, Wetter, and Baer (1994) noted that the MMPI-2 is vulnerable to simulated closed head injury. This leads to the conclusion that MMPI-2 findings alone cannot be relied upon as the sole indicator of malingering of head injury. This recommendation has held true up to the present for the specially designed Response Bias Scale applied to the MMPI-2-RF as developed by Gervais, Ben-Porath, Wygant, and Green (2008). The Response Bias Scale is empirically derived and can be viewed as effective in uncovering response bias because the items reflect overreporting of cognitive symptoms.

The Millon Clinical Multiaxial Inventory—IV (Aguerrevere, Greve, Bianchini, & Ord, 2011; Millon, Grossman, & Millon, 2015) has been increasingly used for forensic purposes by practitioners. In particular, the validity scales are marketed as helpful indicia of malingering and defensiveness. Reviews of this test in the chapter on pain and loss of sensation suggest that it is inappropriate for forensic purposes (hit rates are substantially below 0.60).

Validity Indicator Profile

A highly recommended stand-alone test of malingering of neuropsychological functioning is the Validity Indicator Profile (VIP) (Frederick, 1997). Frederick and Crosby (2000) and Bender (2018) described and highlighted the methodologically based VIP, a two-alternative forced choice procedure designed to determine if cognitive and neuropsychological testing is invalid because of malingering or other problematic response styles. The instrument is comprised of 100 problems that assess the nonverbal abstraction capacity and 78 word-definition problems. The VIP attempts to establish an subject's performance as representative of the S's overall capacity (i.e., valid or invalid). A valid performance is classified as "compliant," an invalid performance is subclassified as "careless" (low effort to respond correctly), "irrelevant" (low effort to respond incorrectly), or "malingering" (high effort to respond incorrectly). Frederick and Crosby (2000) reported a cross-validation study with 152 non-clinical Ss, 61 brain-injured Ss, and 49 Ss considered to be at risk for malingering, and 100 randomly generated VIP protocols. The nonverbal and verbal subtests of the VIP demonstrated overall classification rates of 79.8% (73.5% sensitivity and 85.7% specificity) and 75.5% (67.3% sensitivity and 83.1% specificity), respectively.

The VIP is a promising instrument for the detection of malingering. The author demonstrated that the instrument's four-fold classification scheme (i.e., cross-classification of high to low motivation and high to low effort) reduces problems with false-positive classifications. Bender (2018) adds that the VIP is ideal for forensic purposes in that it is difficult for the examinee to know which strategy is being used for which items and assesses faking in multiple dimensions. Due to the methodology of the VIP, it is extremely unlikely that positive results can be accounted for by other explanations than feigning. The key useful characteristic of a valid VIP is that the evaluator can be assured that other neuropsychological and intelligence testing administered concurrently can also be considered valid.

Smell Identification Test

The Smell Identification Test (SIT) provides an illustration of forced choice testing of faked sensory deficits. Developed by Doty, Shaman, and Dann (1984) and Doty, Shaman, and Kimmelman (1984) at the University of Pennsylvania and thoroughly researched since then (Doty, 2015), the 40-item SIT provides a quantitative measure of smell function in less than 15 minutes. The authors note that problems with the sense of smell are frequently associated with head trauma, with anosmia found in between 7% and 8% of cases. In civil cases, the SIT may be useful when the assessee is suspected of malingering in regard to his or her sense of smell. Four choices of smells are presented upon release of an odorant, yielding a 25% chance of accuracy in correctly identifying the designated smell, given total anosmia (10 out of 40). Most non-faking patients will correctly identify 35 or more of the 40 odorants with females generally outscoring males at all age levels. Zero is the modal number of correct guesses for 158 men and women instructed to fake bad in the Doty, Shaman, and Kimmelman (1984) study. Doty (1991) notes that under the assumption that $p = 0.25$, the probability of obtaining a score of zero by chance is 1 in 100,000; the chance of obtaining five or less correct on the SIT is less than 5 in 100 and corresponds to the range in which malingering is identified. Those with genuine problems reflecting the total loss of smell (i.e., anosmia), generally score around 10 at chance level due to essentially random

responding. Patients with partial dysfunction have intermediate SIT scores. Patients with multiple sclerosis yield scores slightly above average; Parkinson's or Alzheimer's patients produce scores that are significantly lower than average, but that are still substantially above the expected range for random responding. Doty (2015) notes the continued strong reliability (test-retest $r = 0.94$) and validity of the SIT.

Additional resources and findings. In a review of research on the assessment of malingering in neuropsychological evaluations, the reader is enjoined to read the theoretical, methodological, and application of empirically derived findings from Rogers and Bender (2018), particular the chapters by Bender & Frederick (neuropsychological models of malingering), Bender (malingered TBI), and Frederick (feigned amnesia and memory problems). Their findings include:

Poor performance on neuropsychological measures should not automatically lead to a conclusion of cerebral dysfunction or malingering.

The consequences of rendering false positive or false negative conclusions regarding brain injury can be extremely harmful to both the individual and the society in which he or she resides. Therefore, a conservative approach is always recommended if warranted by the data with more frequent use of outcome statements, such as "cannot be determined to a reasonable degree of neuropsychological probability," at the onset and until the work is completed. The forensic professional must abide by ethical constraints including resisting untoward pressure by referral sources—whether the criminal or civil court, plaintiff/defense, or prosecuting/defense attorneys—to come to binary conclusions in regard to specific cases. In this regard, the forensic professional should understand that the court's insistence in experts rendering dichotomous conclusions is traditional and doesn't reflect the gray area inherent in most conclusory opinions.

As stated, neuropsychologists are increasingly aware of attitudinal and motivational factors significantly affecting neuropsychological test performance. These factors must be systematically evaluated to come to the most accurate diagnosis. The utilization of measures that are both sensitive and specific to malingering of neuropsychological deficits is necessary. A forensic professional should employ both embedded and stand-alone measures of deception. Embedded forced choice measures within stand-alone tests (e.g., WAIS-IV; Wechsler Memory Scale-IV (WMS-IV), California Verbal Learning Test-Revised (CVLT-R), and Wisconsin Card Sorting Test (WCST) are opportunities for deception detecting often overlooked by forensic professionals.

Some available measures miss malingering because they are too simplistic, other measures incorrectly identify various behavioral expressions of brain injury as malingering. In using both imbedded and stand-alone measures of malingering, the evaluator must determine the likely performance given specific neuropsychological deficits by the examinee. A number of studies on malingering are empirically suspect because they rely on recruited simulators who are asked to fake symptoms. These studies represent artificial malingering constructs, and it is questionable that they can be generalized to actual clinical/forensic applications. The slippery nature of everyday malingering outside of controlled settings makes it likely that recruited malingerers will continue to be used, particularly in the early development of instruments.

In most comprehensive forensic evaluations, multiple validity tests are utilized. In a large study, Martin, Schroeder, and Odland (2015) surveyed 316 practicing neuropsychologists who administered on average of six stand-alone and embedded measures of deception. Attempts to measure false positive rates from multiple positive test scores have yielded a variety of statistical methods including multiple comparisons (Keselman,

Miller, & Holland, 2011) and chained likelihood ratios (Larrabee, 2008). These two studies, however, yielded contradictory findings because of the different methods, assumptions behind those methods, and failure to specify the degree of dependence the malingering tests had on other measures (Bender and Frederick, 2018). Moreover, the validation studies on malingering on which the findings are based typically used subjects not involved in pending compensation or litigation, which limits generalization to most forensic evaluation. Berthelson, Mulchan, Odland, Miller, and Mittenberg (2013) found from 22 independent studies of non-malingering individuals not involved in litigation, for example, findings that contradict the Slick and Sherman (2013), that indicate faking cognitive deficits is “probable” when 2 or more tests are failed.

In the presence of contradictory and nascent studies on multiple malingering measures, the evaluator may consider a simple, conservative method based on several thousand forensically evaluated persons in order to establish non-faking or deceptive behavior (Hall & Poirier, 2001). Here, the evaluator is admonished to use at least 6 imbedded or stand-alone measures of deception. Test scores are scrutinized to determine whether results are consistent with a particular response style. The number “6” was chosen because the binominal probability of finding agreement among 6 binary tests of deception (i.e., faking versus non-faking) is $0.56 = 0.016$, which falls within the generally accepted $p < 0.05$ (two-tailed) probability level. If all 6 of the scores of the malingering indicia fall within the acceptable range, for example, a conclusion of no deception for evaluation behavior would be proffered. Very low scores suggesting expected deficits that conform to independently derived information indicating deficits (e.g., neuroimaging and DEEG) are not counted as malingering. If 2 or more of the malingering tests are positive for malingering, with or without clinical indications of symptom exaggeration, and there are incentive or motivational reasons to suspect malingering, then the report should indicate that some results “consistent with malingering” were found. Evaluation data may not be utilized in such a case, much as invalid MMPI-2 protocols are not clinically interpreted. All combinations in between a finding of no deception and consistent with deception should be deemed indeterminate.

Summary and Signs of Faking

Neuropsychological testing lends itself well to deception analysis. Fruitful areas of inquiry are plentiful within a composite battery, whose findings can then be integrated with data from other sources. Tests for cerebral functioning can be combined with personality tests, clinical observation, and cross-validating sources to provide conclusions regarding faking.

The following list presents signs suggestive of deception:

1. Failure on specific measures adapted to assess faking of cerebral impairment (e.g., illusorily difficult tests)
2. a. Inconsistency between clinical/test behaviors and known neuropsychological syndromes (i.e., goodness of fit)
b. Failure to exhibit impaired function outside the context of evaluation or unimpaired performance on claimed impairments
3. Skill performance changes on parallel testing

4. Anterograde better than retrograde memory
5. Neuropsychological test results consistent with statistical rules for detecting malingering
6. Similar or better performance on easy compared to difficult versions of the same test
7. Less than chance performance on forced choice sensory, recall and reaction-time tests. However, some fakers perform somewhat above chance based on a lack of knowledge of scoring procedures
8. No improvement where expected (e.g., absence of learning curve)
9. Test scores outside of predicted confidence intervals (e.g., actual WAIS-IV Full Scale IQ outside the confidence interval predicted by the score on other standardized measures of intelligence)
10. Non-cognitive behavior changes must always be explored and differentiated between malingering versus genuine cognitive impairment

While not definitive in themselves, these factors are suggestive enough of distorted performance to justify a more intensive investigation of the possibility of malingering.

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Epidemiology, Costs, and Base Rates

An estimated 30 to 40 million adults in this country suffer from chronic pain, defined as pain present daily for more than 6 months, representing 15%–20% of the population (Moreo, 2003; Brownlee & Shaf, 1997). More recent findings from the 2016 National Health Interview Survey estimate that 20.4% (50 million United States adults) currently have chronic pain and 8.0% (19.6 million) have high-impact chronic pain, especially among women, older adults, unemployed adults, adults living in poverty and rural areas, and those covered by public health insurance (Dahlhamer et al., 2018). Pain complaints and associated conditions account for over 50 million lost work days per year, costing over \$40 billion annually (Moreo, 2003; Weed, 2005). Recently, the Center for Disease Control (CDC) estimated that total costs approach \$560 billion yearly in direct medical costs, lost productivity, and disability programs (Dahlhamer et al., 2018). New York's appellate courts issued decisions in ten cases in 2011 alone, for example, that approved pain and suffering damages in the sum of \$3,500,000 or more for each plaintiff (or set of plaintiffs in a single case). Although we focus on civil-forensic evaluators, the legal community and third-party carriers are key stakeholders in the present system where pain-related issues are concerned.

An accepted early finding was that pain thresholds are generally similar from person to person and culture to culture, but pain tolerance was seen to vary widely depending on context, culture, stimulus, and other factors (Gildenberg, 2006). Yet both tolerance and pain thresholds have been found to be affected by a combination of learned and genetic contributions (Fillingim, Wallace, Herbstman, Ribeiro-Dasilva, & Staud, 2009). Fillingim et al. (2009) cite the empirical literature to show that individual differences are observed in patients with comparable pathology or disease severity. They found that the majority of individuals with radiographic-confirmed osteoarthritis report no pain, patients undergoing comparable surgical procedures report widely varying amounts of pain, and pain sensitivity ratings for identical cold-water stimuli ranged from non-existent to the highest rating employed. Twin studies reviewed by Fillingim et al. (2009) show that genetic contributions to chronic pain account for approximately 50% of the variance, and the data for experimentally induced pain show comparable heritability estimates.

Chronic pain conditions which have been determined to have a substantial genetic loading include arthritis, fibromyalgia, irritable bowel syndrome, migraine and tension-type headaches, lower back pain, neck pain, carpal tunnel syndrome, chronic widespread pain, and gastro-esophageal reflux disease. Lower back pain had the highest concordance rate, ranging from 52% to 68%. Pain thus appears to be a 50–50 proposition in regard to contributions of nature versus nurture.

Most of the above studies show, and it is now commonly accepted by pain researchers and clinicians, that situational variables such as mood states, anxiety, depression, stress,

and transient biological factors interact with personality, which in turn interact with the perception and tolerance for pain. It is also generally accepted that numerous biopsychosocial factors affect both pain thresholds and tolerance. This finding has profound implications for detection strategies in the forensic assessment for deception, discussed later in this chapter.

It is not yet possible to differentiate in any direct manner malingered representations of pain from actual pain. We do know that malingerers tend to minimize or avoid medical contacts through which their deceptions may be discovered (McDermott & Feldman, 2007). When they do show up for appointments, extra non-compensable time and effort is often expended by the provider. An early finding was reported by Carroll, Abrahamse, and Vaiana (1995) in that 35%–42% of all medical costs for soft tissue claims submitted for auto accidents were considered excessive. A base rate for malingering of 33.5% for pain in general and somatoform disorders was reported by Mittenberg, Patton, Canyock, and Condit (2002).

Greve, Ord, Bianchini, and Curtis (2007) reported in their methodologically sound review of studies that malingering was slightly over 30% as exhibited by chronic pain patients evaluated in personal injury or workers compensation (WC) cases by board certified neuropsychologists. Their reviewed studies and analysis of their own sample showed that malingering by chronic pain patients with a financial incentive was 20%–50%. The high end of the malingering rate was seen in cases represented by an attorney (39.4%), WC cases (39.4%), and cases in a federal jurisdiction (40%), all three contexts are not significantly different from each other in the rate of malingering. Given that the best recent and most comprehensive studies show an across the board 10%–20% base rate for true malingering, as reviewed at several points in this book, rates of malingering traditionally have been overinflated.

Research to be reviewed attests to the many variables that affect the determination of involuntary versus intentional distortion in regard to pain and loss of sensation. In general, a deception analysis appears to be a mandatory procedure in virtually all types of civil-forensic and criminal-forensic cases.

Pain research: Even ruling out or accounting for evaluator bias, as discussed in the opening of this chapter, the research literature shows that the ability of mental health professionals and investigators to distinguish faked from genuine pain behavior is poor or marginal at best. This finding is in keeping with research results in the chapter on non-verbal behavior, which should be reviewed along with this chapter when addressing pain-related examination issues.

One area of pain research has been assessing the ability of judges to subjectively detect faked pain. A common paradigm in the literature has been for judges to assess dissimulated pain manifested in nonverbal facial expressions of confederates. The studies generally show an increasing, but modest level of accuracy with facial action training and enhanced feedback (Hill & Craig, 2004; Poole & Craig, 1992; Galin & Thorn, 1993; Hadjistavropoulos, Craig, Hadjistavropoulos, & Poole, 1996; Littlewort, Bartlett, & Lee, 2009). These studies show that judgments made by observers of displayed facial pain in lab experiments have been tainted by factors of gender and physical attractiveness. Male patients and physically attractive patients were judged to be functioning better than female and physically unattractive patients. Females were generally more accurate than males in detecting faking, but both genders were overall marginal in their accuracy. Accuracy was unrelated to past pain experience, empathy, or the number of facial cues used (Hill & Craig, 2004). These investigators found that immediate corrective feedback led to significant, but modest improvements

in detection accuracy, whereas there was no support for the use of an information-based training program.

A meta-analysis involving 106 studies and 16,537 subjects found that police officers, detectives, judges, psychologists, students, and lay members of the public were not significantly different from one another in their (poor to modest) ability to detect deception, including fake messages conveying distress and pain (Aamodt & Custer, 2006), and that it is extremely difficult for most people to detect deception by merely observing others (Vrij, 2008). Littlewort, Bartlett, and Lee (2009) found that naïve human subjects obtained only 49% accuracy—virtually a flip of a coin—in differentiating faked from real pain from facial expressions, but that an automated system obtained 88% correct identification for real versus faked pain on a 2-alternative forced choice format.

Adding to the validity of the above studies, it has been found that police, students, and presumably most persons believe wrongly that certain behaviors, such as increased or agitated movement, gaze aversion, and other stereotypical responses are indicative of deception (Bogarrd, Meijer, Vrizz, & Merckelbach, 2016). Obvious suggestions of faking, such as bizarre responses and disproportionate pain responses to minimal or no stimulation are commonly held to reflect faking and add little to the empirical literature.

Two other factors significantly affecting the assessment of malingered pain are litigation and compensation. Studies have demonstrated that legal definitions and compensation criteria can and do influence pain syndrome presentation (Hadjistavropoulos & Malloy, 1999; Lees-Haley, 1989, 1990; Lees-Haley & Fox, 1990; Rodes, 2018). The phrase “malinger by proxy” describes the scenario where someone sustains a bodily injury during a home accident, for example, but attempts to blame the injury on a motor vehicle accident (MVA) a week later in order to obtain compensation (Rodes, 2018). Researchers have found that patients in litigation consistently reported more favorable pre-injury status compared to controls (Gianoli & Soileau, 2018; Lees-Haley, Williams, & English, 1996).

Traditionally, there is great caution in diagnosing malingering of pain. This tendency of clinicians and some forensic professionals alike is supported by the literature showing a generally modest at best accuracy in determining faking, as discussed above. Legal opinions support this caution. According to Stein (1972), who espouses a traditional view, professionals should be cautious in concluding that feigned pain indicates malingering:

An expert may properly state his opinion that the pain is real, imagined or feigned. However, a claim that the plaintiff is malingering must be approached with great caution, since it necessarily implies that the plaintiff is practicing willful deception, if not perjury. “Malingering” may be defined as the deliberate, conscious feigning of pain by one who knows that he has no pain. The fact that there is no objective basis for the pain which the plaintiff claims falls far short of proving malingering.

According to this view, purely subjective claims of pain should not automatically be construed as fabricated or exaggerated. Imputation of conscious, intentional faking of pain requires more than the absence of tissue pathology or of functional impairment. In *Boyd v. General Industries* (1987), the court held that a 47-year-old assembly line worker who injured her back on the job could recover for increased or prolonged disability due to subjective pain in view of the testimony of doctors that her experience of pain was real to her. Furthermore, this court found that plaintiffs may recover damages even if they engaged in willful deception, based on the principle that genuine deficits such as psychological pain can be accompanied by unrelated lying and distortion. This traditional legal view, as we

shall see, is losing ground in favor of objective testing and multiple findings that malingering is a pervasive phenomenon especially when vested interests are involved.

Neurological indicia of faking: For physicians and some neuropsychologists, the cranial nerve examination (CNE) is a commonly used set of measurements in pain-related disorders. Theoretically, the 12 cranial nerves are examined for symmetry with asymmetrical findings as one indication of a pathological process (Friedman & Chou, 2007). Unfortunately, performances on this set of measures are easily faked and are not highly reliable or valid and are usually based on a small number with inadequate methodology. For example, Waddell, McCulloch, Kummel, and Venner (1980) claimed that certain motor signs during the CNE could reliably be utilized as an adjunct to detect pain-related motor dysfunction. Clinical research with a small N later found that 3 out of 5 of the signs—superficial and widespread tenderness, stimulation tests, distracted straight leg raise, non-anatomic sensory changes, and overreaction—indicated symptom magnification (Main & Waddell, 1998). A more recent study, again based on a small N, found that there is no relationship between non-organic pain (Waddell's signs) and secondary gain/malingering (Fishbain, Cutler, Rosomoff, & Rosomoff, 2004). Waddell's Test for back pain has been found to be useless in discriminating organic from non-organic dysfunction (Greer, Chamliss, & Mackler, 2005). They also found in their review little evidence of test-retest or interrater reliability in the CNE. In general, there has been no empirical validation of the claim that the Waddell's Test is reliable and valid, yet it continues to be utilized in CNEs along with other equally unreliable measures of pain.

Medical "tests of malingering" in pain-related evaluations have been reported by Greer, Chamliss, and Mackler (2005). Used in various forms for over a century, these authors reported that McBride's test for symptoms of back pain with radicular symptoms, which involves standing on one leg and flexing the symptomatic leg, and raising it to the chest has no published peer-reviewed studies. The authors note that either or both: (1) refusal to undergo the test or (2) reported pain, supposedly indicates a "non-organic" cause. Such a conclusion likely increases the rate of false positives when some other dynamic may actually be occurring.

The Midline Split Test indicating sensory loss involves the highly aversive test of testing facial sensation to pinprick. Non-organic loss of sensation is supposedly delineated by the midline despite a number of conditions (e.g., Bell's Palsy) known to alter perception of facial symmetry and sensitivity. Using a small, case-oriented study, Greer, Chamliss, and Mackler (2005) also report on the commonly used Mannkopf Test, involving significant pressure applied to the middle phalanx of the second finger of the non-dominant hand, which is supposed to increase heart rate, an outcome not remotely supported by the literature. These studies suggest that behaviors most indicative of symptom magnification of movement-related conditions and pain include obvious gross-motor and flinch responses to minor stimulation, as well as bizarre responses to simple instructions.

As part of the standard CNE, positive signs that indicate cranial nerve 1 (olfaction) dysfunction are commonly held in medicine to reflect frontal lobe disorders due to the intertwining of primary olfactory structures to the ventral-medial lobes and limbic circuits (Sanders & Gillig, 2010). They note that common conditions resulting in olfactory deficits include normal aging starting for both sexes around 60–65 years of age, cigarette smoking, alcohol abuse, traumatic brain injury (TBI), depression, and rhinitis/sinusitis. Precise identification of severe olfactory deficits is, in turn, significant for both Lewy body dementia and Parkinson's disease. Sanders and Gillig (2010) recommend a highly reliable

and valid measure, the University of Pennsylvania Smell Identification Test (Doty, Frye, & Agrawal, 1985). The Smelling Identification Test, reviewed elsewhere in this book, is not commonly used in the CNE.

Most evaluators of pain use a consistency model in determining faked pain. Yet, pain may be inconstant due to habituation, change in context, psychological modification, and other factors. This argues for a multifaceted approach to evaluation, hopefully with the results pointing in the same direction.

Dermatome analysis (Goldberg, 1987; Downs & Laporte, 2011) has been utilized by neurologists and other physicians as an adjunct in the CNE. Deviations from expectation have served as an indication of malingering. This involves the study of perceived pain or loss of sensation corresponding to the strip-like projection areas of individual sensory nerve roots, which are distributed over the body similarly for most humans, and then relating them to reported pain in individual cases. Traditionally, a sensory deficit involving an extremity (rather than a specific dermatome) was held to suggest a lesion on a sensory tract within the central nervous system (CNS), whereas sensory deficits along a dermatome, especially when associated with localized pain, suggest a peripheral nerve lesion (Goldberg, 1987). A reformulation in recent years suggests that if an area of paresthesia, a burning or prickling sensation that is usually felt in the hands, legs, or feet, coincides with a cutaneous nerve then the problem is very likely associated with the peripheral nerve supplying the area. If the burning or prickling sensation coincided with the dermatome of a spine, then the problem should be construed by the clinician as a CNS issue, or in or near the spinal cord where the nerve fibers are mixed (Downs & Laporte, 2011). Thus, we have conflicting findings and interpretations for measures utilized in the CNE.

Other focal findings from dermatome analysis are possible, but the problem of different dermatome maps leading to different conclusions has not been resolved. Although physicians routinely use dermatomes to diagnose neurological injury and pain-related conditions, Downs & Laporte (2011) show in their review that there is no standardization of the dermatome maps upon which these diagnoses were proffered. They state that inter-textbook and intra-textbook consistency is poor, with some textbooks showing different maps on different pages with no explanation.

Dermatome analysis in its present state of development falls way short of the rigorous standards for most forensic evaluation and certainly does not meet Daubert standards. Use of this method in forensic settings and situations, especially in court, should invite vigorous cross-examination and may fatally flaw proffered conclusions from the civil-forensic expert.

Comparing pain versus temperature: These sensations tend to coincide because they are located in the same nerve bundles in the lower part of the brain and spine. When the temperature sensation is preserved, while there is a loss of sensation, the deficit is not considered organic in etiology. A lesion of the pain-temperature pathway (spinothalamic tract) will result in the loss of pain-temperature sensation contralateral to and below the level of the lesion. This holds true whether the lesion is in the brain or in the spinal cord. Additionally, the loss of pain-temperature sensation in the right leg and loss of proprioception in the left leg suggests a single lesion on the spinal cord.

Faked hemiparesis is clinically more common in the left limb than the right, perhaps because of the more frequent right-hand dominance. Often, there will be a short period of normal activity prior to the limbs “giving away” and the patient reassuming the paretic position. This response may be accompanied by reported pain where none is expected.

Fakers often have an incorrect belief about the laterality of symptoms. This is exhibited when the faker describes right- or left-sided headaches in conjunction with other anomalies (e.g., hearing, sight, smell, and motor deficits) on the right side. The faker is not aware that contralateral and not ipsilateral deficits may be expected from the suggested injury. Multiple lesions, causing unilateral symptoms and representing a relatively rare event, are required in order to account for the reported effects.

Alleged pain imperception or loss of sensation is difficult to fake upon repeated bilateral stimulation. This is because fakers are relying on a subjective strategy rather than responding to the strength of the stimulus. Von Frey hairs, for example, can be used to bilaterally test a faked sensory imperception.

Drug response discrepancies indicate some drugs have a differing chemical composition even though they are similar in terms of effect on reducing pain. The reader is referred to the latest version of the *Physicians' Desk Reference* (PDR Network 2016 and later editions) for the side effects of most drugs. Malingering findings from the chapter in this book on substance abuse should be reviewed.

Neurological, Biological, and Emotional Factors

Adding to the difficulty of accessing pain in most cases is the inability of research to identify a specific nociceptive cause for pain-related conditions (Hartvigsen et al., 2018). On a biological level, receptors to noxious stimuli are called nociceptors, which are needed for the perception of pain and are found both internally and on the surface of the skin. Together, the nociceptive and the anti-nociceptive pathways, which provide pain relief, constitute the beginning and end points of the body's response to physical pain. Peripheral sites and tracts converge on the spinal cord, in particular the substantia gelatinosa, consisting of nerve cells in the dorsal horn of the spine. Pain information is sent in ascending pathways to the brain. The classic "gate theory" (Melzack, 1973) of pain perception suggests that a limited amount of pain signals enter the brain, and that there is a modulating influence on pain information and pathways descending from the brain. The primary modulating factor operating to reduce pain is the production of endogenous opiates. These are mainly amino acid chains (polypeptides) called endorphins, which emanate from CNS sites. Endorphin sites include, but are not limited to, the brain stem, especially the periaqueductal gray matter. Tolerance, withdrawal, and other morphine-like effects have been noted in regard to endorphins. In fact, much chronic pain could be due to a withdrawal reaction (due to depletion) to endogenous opioids, thus depriving the organism of relief from pain. Parker (1990, 2011) noted in this regard that pain is inversely related to pre-surgery B-endorphin levels. Keep in mind, however, that the majority of chronic pain cases, particularly involving the lower back, are idiopathic, meaning we have no clue concerning the source of the nociceptive signal (Apkarian, 2010).

In his comprehensive review of pain-related conditions and associated cognitive/affective/behavioral abnormalities, Apkarian (2010) found that the most noteworthy symptoms are attentional and memory deficits, and impaired emotional decision-making with abnormal brain chemistry—decreased *N*-acetyl-aspartate in the lateral prefrontal cortex. Depression was found to be one of the strongest predictors for low back pain. Apkarian (2010) reported that fluctuations of spontaneous pain, when increasing, were associated

with activation of the insula, anterior cingulate cortex, multiple cortical parietal regions, and the cerebellum. Magnetic resonance imagery (MRI) identified the medial prefrontal cortex as the primary region for severe perceived pain.

Psychological/Affective Factors

Both physical and psychic pain pathways involve the frontal cortex and limbic system, thus associating sensory with affective information. Apkarian, Hashmi, and Baliki (2011) argues from his review of empirical studies that chronic pain is more dependent on psychosocial and occupational factors than on medical characteristics of the spine. Parker (1990, 2011) and Apkarian (2010) note some psychological features of pain:

1. At low levels of arousal, pain may serve an informative function
2. At high levels of arousal and stress, pain is accentuated
3. Elevated tension and anger are associated with increased acute pain; chronic anxiety (e.g., “anxiety proneness”) and depression are also associated with an increased perception of pain, as well as the presence of collateral physical impairment
4. Increased pain is associated with inability to express one’s feelings. The usual psychological consequences of chronic pain include deteriorating self-esteem, irritation, sexual dysfunction, anger, and guilt
5. Depression, as stated, is the key psychological correlate of chronic pain

Pain often functions as a signal to others for help and/or attention. An early study by Flor, Kerns, and Turk (1987) reported that the best predictor of self-reported pain in domestic contexts was the person’s perception of spousal reinforcement. Clients who viewed their spouses as solicitous reported higher levels of pain and lower levels of activity. Increased dependency on others as a response to pain is common. A progressive withdrawal and isolation from others is seen in some cases. This process is exacerbated by a noted tendency for family, friends, and acquaintances to avoid people in pain. One reason for this avoidance is to reduce exposure to the unpleasant displays of the affected party. Loss of work may further reduce self-esteem and increase depression, as well as destroy the financial basis for the future of the individual.

Culturally, some persons are not encouraged to show pain responses (e.g., some Oriental groups and Northern Europeans). Other groups are much more expressive (e.g., Mediterranean people and Polynesians). The evaluator needs to consider culture and communication styles when assessing an individual’s complaints of pain. In some individuals, apparently exaggerated complaints of pain may represent personal (e.g., histrionic) or sub-cultural (e.g., Mediterranean) styles of communication rather than evidence of intentional distortion.

Targets of deception: Defining pain and associated possible deception is, as stated, difficult. The faker has the same difficult task as he or she first has to decide what can be passed off as painful or unresponsive to stimulation. The standard definition suggests that pain is a response to noxious stimuli—those which produce or threaten to produce tissue damage. Yet, psychic pain produced by psychological stimuli may be just as distressing

as purely physical pain to affected individuals. In many cases, there may be no difference between physical and psychological pain in reported intensity, frequency, or duration. Both intertwine to a considerable extent, with depression, anxiety, and frustration increasing experienced pain, and vice versa.

The most common targets of malingering pain correspond to actual pain syndromes: these include: (a) headaches—tension, migraine, vascular, and post traumatic; (b) back pains—disc disease, spondylitis, osteoporosis, and fractures; (c) psychologically induced pain—trauma, post-traumatic stress disorder (PTSD), etc.; and (d) others—myofascial pain, muscle spasm, and sympathetic dystrophies. These, of course, are types of disorders in which pain is the primary complaint.

Headaches around the eyes can be also due to glaucoma and not bizarre. Pain around the back of the neck can be caused by meningitis, and in the face to trigeminal neuralgia. Psychological pain is a common correlate of many Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (2013) conditions. These include the depressive and anxiety disorders, hypochondriasis and hysteria, and the organic mental disorders. The International Classification of Diseases describes many pain-related diseases, including musculoskeletal disorders (e.g., osteoarthritis and Paget's disease), ischemic disorders (angina pectoris and claudication), neurological disorders (e.g., causalgia, coccydynia, and scar pain), and miscellaneous categories, such as chronic pancreatitis and temporomandibular joint syndrome.

In sum, pain may be either the defining or an associated feature of a disorder and may be due to either physical or psychological causes. It may be exaggerated or distorted without being totally fabricated, as in partial malingering. Both pain and loss of sensation may be compensable losses. All chronic pain and sensation-loss syndromes can be targeted for deception. Pain complaints are over-represented in the lower back area where nerves are in abundance (Griffith, 1990; Hartvigsen et al., 2018). Reported pain can be widely distributed over the body, but is more likely associated with the discrete conditions mentioned above. Some active lifestyles, such as construction and the military, as well as the polar opposite represented by the sedentary person, is usually affected with chronic pain, and lower socioeconomic status (SES) is associated with increased low back complaints (Hartvigsen et al., 2018). Thus, the evaluator needs to be alert to many targets of deception and to assess the entire lifestyle of the assessee.

Examples of targeted malingered pain from cases include:

- Behavior:* Discrete motor behaviors associated with low back pain were shown by a 25-year-old male, who engaged in vigorous exercise when not posturing weakness and immobility.
- Sensation:* Extreme reactivity to touch and pressure was shown on 2-point threshold tests by an 18-year-old 4 years after suffering minor (first degree) burns.
- Imagery:* Painful images (flashbacks of war) with gross motor writhing were exhibited by a 35-year-old male veteran even though it was determined that he had not been stationed in a combat area.
- Affect:* Minor tranquilizers increased rather than decreased reported pain in a 45-year-old female seeking compensation from an accident involving a slight fall while disembarking from a marine craft.

- Cognition:* “Suicide” ideation and gestures of an unrealistic nature (hitting himself with his own fists and trying to strangle himself) were shown by a 27-year-old person of low average intelligence in an alleged suicide attempt to escape from a painful love relationship.
- Interpersonal:* Interpersonal manipulation as in faking bad was suggested by a 59-year-old when he required family members to wait on him after making up a history of painful heart attacks.

Some symptoms of pain, or signs associated with pain, cannot be faked. These include: (a) muscle atrophy and fasciculation, the latter consisting of a sometimes painful contraction of skeletal muscles in which groups of muscle fibers innervated by the same neuron contract together; (b) visual disturbances, such as the pupillary light reflex, abnormal retinal appearance, ocular divergence, and nystagmus; (c) positive orthopedic radiological findings associated with pain; and (4) puncture wounds. All the above should be considered involuntary in nature. Paradoxically, the brain itself does not have pain receptors and lesions and does not “cause” pain, despite brain imaging showing activation in regions associated with acute pain responses (Apkarian, 2010). The exceptions are the meninges, bone coverings, vascular network, and pathways innervated by extra-CNS sites and systems.

Evaluators should not confuse complainers with fakers. False negatives are frequent in this stage of pain analysis and treatment, with medical personnel wrongly asserting that a patient does not have genuine pain, as the following case demonstrates.

Lt. Arnold walked into the army mental health clinic stating that he had been referred by the military hospital internist to rule out psychological factors to a reported injury and to receive psychotherapy. This young officer explained that no medical cause had been found for a sharp, excruciating, but episodic pain in his lower back, first experienced when leading his platoon in calisthenics, and that he did not feel the examining physician believed him. Psychometric tests revealed many traits associated with hysteria including a substantial conversion “V” on the Minnesota Multiphasic Personality Inventory-2 (MMPI-2), considered a classic (but now repudiated) sign sometimes associated with faked distress and pain (Hall, 2008). Malingering tests were negative for faking.

Subsequently, the lieutenant reported that the military physician, upon receiving the psychological test results, accused the officer of malingering and ordered him back to the field. This psychologist referred the client to a private osteopath who cleared up the problem in less than 15 minutes with spinal manipulation. The pain did not return after 6 months.

Response styles associated with faking: Recall that the methodologically sound Greve et al. (2007) study utilized 508 consecutive chronic pain patients referred for psychological evaluation over a 10-year period. Research has shown that to determine malingering in individual cases, as illustrated by the Greve et al. (2007) study, all three response styles in which underperformance or exaggeration may occur need to be examined—cognitive underperformance, exaggeration/fabrication of psychiatric symptoms, and exaggeration of somatic symptoms. The authors from their clinical-forensic experience would like to add several more response styles, as discussed below, to include invalidation and fluctuating styles.

Like targets, the kinds of behaviors associated with faking some aspect of pain include any responses which may yield a successful outcome for the faker. Honesty is commonly

demonstrated when there is no reason to fake or when cross-validating data are readily available to the evaluator. Faking good sometimes occurs when the client wishes to minimize or deny a more negatively perceived problem such as sexual dysfunction. This denial covaries with cultural upbringing and with contexts where the expression of pain may be disapproved (e.g., military, police, and sports).

Malingering pain and faking loss of sensation may be linked to a payoff for the deceiver. Mixed and fluctuating responding can be exhibited, such as when one type of pain is exaggerated (e.g., backache) and another denied (e.g., headache), with both changing in the reported level of severity over time.

Help-seeking behaviors associated with pain and injury are instructive to study. Peck, Fordyce, and Black (1978) in a now-classic study examined a wide range of pain behavior in tort claim litigants. Only two unsurprising events identified fakers—they consulted fewer physicians and utilized more supportive devices (i.e., crutches and prosthetics). More commonsensical findings included fakers attempting to avoid evaluators and treatment personnel.

A study consistent with these findings utilized 237 chronic pain patients, qualifying for a diagnosis of neuropathic pain from the original treaters, 16 of which were shown through surveillance to be malingers (Ochoa & Verdugo, 2010). Without exception, every malingering patient volunteered worsening of pain symptoms and displayed a great deal of pain behavior to the author-physicians. More specific indicia of faking from this study included: (a) give-way weakness of commanded maximal voluntary muscle contraction, due to interrupted willful drive; (b) bizarre abnormal movements; (c) non-anatomical and fluctuating areas of cutaneous hypoesthesia or hyperalgesia/allodynia; and (d) relief of hypoesthesia, muscle weakness, or abnormal movements by inert or active placebo intervention.

Finally, they found that all the malingerers in their study had been previously diagnosed with complex regional pain syndrome, a condition assumed to have its origin in brain pathology. Their results indicate that some individuals can fake brain-driven cases of pseudoneurological illness behavior.

Detection strategies to uncover deception: Best practices for the detecting of malingering and faked loss of sensation include the following: (1) detailed record reviews, (2) structured interviews of the possible faker and significant/knowledgeable others, (3) psychological and, if necessary, neuropsychological testing with built-in subscales or methods to assess deception, (4) stand-alone and embedded measures of malingering and misrepresentation, and (5) observational methods, which may include audio/videotaping of behavior in naturalistic versus structured settings, recreational versus work environments, and clinic versus residential behavior in an attempt to measure the ecological validity of claimed deficits and possible deceptive behavior. These findings should always be tied to base rates and objective testing.

Barkemeyer, Callon, and Jones (1989) have developed a malingering test for pain, loss of sensation, and other faked complaints. Wymer, Barkemeyer, Jones and Callon (2006) cited previous studies showing that the malingering detection scale (MDS) had excellent criterion validity (Study 1: sensitivity = 90%, specificity = 96.7% and Study 2: sensitivity = 94.1, specificity = 100%). They investigated the Barkemeyer-Callon-Jones Malingering Detection Scales for a group of 50 neurology clinic non-malingerers with positive objective findings on neurological examination. Their study provided discriminant validity for the specificity of the MDS with none of the participants falsely classified as malingerers.

The forensic professional should utilize, as repeatedly emphasized in this book, objective testing and reliable and valid malingering tests. A striking finding of the Greve et al. (2007) study was that detection types and methods produced comparable estimates of prevalence that did not appear to differ from the summary values. They found that validity indices on the MMPI and other objective tests can be used to determine general response style. Indications of faking bad on the MMPI-2, for example, may suggest (but do not prove) that reported pain may also be exaggerated. These include the following t-scores that were positive for malingering, which were isolated in the Greve et al. (2007) study: F (>80), Fb (>85), Fp (>80), FBS (>27), and Meyers (>6).

Chronic pain is seldom experienced in the absence of other affective and psychological problems. These other problems should also be apparent in psychological test scores and profiles.

The Millon Clinical Health Inventory-IV (Millon, Grossman, & Millon, 2015) attempts to measure responsivity to pain treatment, as well as a host of basic coping and prognostic signs. The MBHI illustrates the great difficulty of measuring variables associated with distress. The 150-item true-false questionnaire yields 20 scores and a 3-item validity scale. Earlier versions of the test in terms of construction, reliability, and validity of the measure have been vigorously challenged (Allen, 1985; Lanyon, 1985). Recent versions show some promise in terms of distinguishing malingering from truthfulness on the validity scales. Aguerrevere, Bianchini, Greve, and Ord (2011) obtained a 4% false positive rate, but a joint 54% sensitivity at the most accurate cut-offs—Disclosure—47%, Desirability—51%, and Debasement—55%. Although the Millon Clinical Multiaxial Inventory-IV (MCMI-IV) (2015) now incorporates DSM 5 and the International Classification of Diseases code types, and appears useful for treatment purposes, in its current form, it is not recommended for the forensic assessment of malingering.

Pain self-report inventories can be utilized to assess response styles, but always should be co-administered with objective testing. A number of self-report measures for chronic pain have been described. All these measures must be used with caution because of the potential for deliberate as well as non-deliberate distortion. These checklist inventories may be useful in developing a broad database before arriving at conclusions. The Pain Survey Checklist in [Appendix A](#) was developed by the senior author and is one example of a self-report pain screening inventory. The Pain Survey Checklist covers most known parameters of the pain experience, as reported by the testee. Keep in mind that persons reporting pain in situations where there are external rewards have strong incentive to embellish their self-report. Significant others may be asked to independently contribute information, as well as information from a wide and diverse database, as discussed above.

Promising pain questionnaires for specific conditions have appeared. The McGill Pain Questionnaire (MPQ) for cancer is one such measure (Ngamkham et al., 2012). A systematic search of research using the MPQ for cancer from 1975 to 2009 revealed that pain intensity (29 studies) and pain quality (27 studies) were measured more frequently than pain location, pattern, and behavior parameters. Findings supported that the MPQ was an effective multidimensional measure with good stability, content, construct, and criterion validity and showed sensitivity to treatment or known-group effects. For obvious reasons, the MPQ was originally standardized on a non-forensic, clinical population of persons affected with cancer.

Pain-related studies reviewed by Ngamkham et al. (2012) revealed that ten of the investigations investigated associated psychological factors. Participants with depression, for example, reported higher pain scores than those without depression. This suggests that valid tests or subtests of malingering, such as the MMPI-2, Miller-Forensic Assessment of Symptoms (M-FAST), Structured Interview of Reported Symptoms, 2nd Edition (SIRS-2), and others that include an emotional component could be conjoined with the MPQ for cancer patients in the analysis of deception. For other pain-related conditions, forensic professionals will have to wait for the development of reliable and valid instruments. Already, however, the short-form of the MPQ has been applied to patients with osteoarthritis (Grafton, Foster, & Wriht, 2005). They found high-intraclass correlations for sensory (0.95), affective (0.88), and average pain scores (0.89), but with a lower, but still significant current pain component (0.75).

Previously discussed methods for detecting malingering (e.g., analysis of learning curves, anatomical inconsistencies, regression equations, parallel testing, and explicit alternative testing) may be used in pain deception analysis.

A detailed analysis of pain reportedly experienced outside the evaluation context—at home, work, or social/recreational activities—is necessary to establish the ecological validity of findings from the formal testing. This is based on two assumptions: (a) reduced motor activity level accompanies genuine pain, and (b) the activity level shown during the evaluation should be similar to that shown outside the evaluation session. Some relevant questions include: Is the claimant willing to have the evaluator speak with significant others? or Is the claimant willing to have the evaluator observe him or her at work or in the home doing routine tasks? A refusal is suspicious. A list of specific questions that can be asked is provided in [Appendix A](#). The same list can be given to different relatives and acquaintances to fill out independently of one another. Inconsistencies can be evaluated and checked out. What does the examinee do to reduce pain? Pain is never steady and tends to be diminished when sleeping, engaging in activities that are highly enjoyed such as sex, and tension-reducing activities such as massage, meditation, and sometimes eating, as discussed below. The evaluator should explore statements of changes in pain in the absence of events which would explain them.

Malingered pain may be apparent when behavior in the community is grossly inconsistent with complaints of pain as the following case illustrates:

A 32-year-old mail carrier had two prior claims for unsubstantiated injuries on the job. He was routinely administered psychological and medical exams as part of on-going evaluation and treatment for an alleged neck injury reportedly caused by a fall after a dog supposedly attacked him on his route several years previously. Claimed intense pain in the neck area persisted in spite of normal MMPIs and physical/neurological exams over the years including neuroimaging. Complaints abruptly ended when a full (and permanent) medical retirement was awarded. After retirement, the party was seen frequently on the golf driving range, engaging in strenuous exercise that only a few months previously had been reported impossible to perform.

Lack of response to common evidence-based interventions should raise red flags. Almost all clients should show some pain relief with: (a) biofeedback and neurofeedback, (b) stress management training, (c) mild analgesics, (d) anger management if anger is an issue, (e) relaxation exercises involving muscular tension and release from tension, (f) heat and ice, and (g) mild exercise. Why a person with chronic pain would not show some

improvement with these methods applied for the recommended periods of time, at the very least when engaged in those activities, needs to be answered and integrated into evaluation findings relevant to malingering.

Once this hurdle has been surpassed in individual cases, the pain literature shows that genuine presentations of pain do indeed differ from deceptive presentations. Research challenges are to develop procedural methodologies that reliably distinguish these differences across various types of pain presentations and in real-life clinical situations. With training and feedback, informed and careful clinicians, as well as others, can improve discrimination of genuine versus deceptive presentations.

Final thoughts on pain: Research investigating the nature of pain syndromes continues to be a very challenging area of clinical practice. The experience of pain is an inevitable and ubiquitous aspect of human existence. The evaluation, treatment, and management of pain is a very costly expense in the on-going effort to achieve productive and functional lifestyles for all cross-sections of the socio-economic strata. Clinical medical methods to detect malingered pain and loss of sensation have generally not proven reliable or valid, but are persistently utilized in both clinical and forensic evaluation by physicians. Only a few reliable and valid, but indirect measures of malingered pain are available, including the traditional methods of objective personality testing and, more recently, forced choice testing. The key lesson of this chapter is to systematically evaluate multiple streams of data to shed light on pain-related malingering with or without loss of sensation, based on the notion that faked medical presentations can and usually are associated with deception in other domains.

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Post-Traumatic Stress Disorder and Deception

14

History and Background

Psychiatric symptoms as reactions to trauma have been described for centuries (Deykin, 1999; PTSD: National Center for PTSD, 2007; Starcevic & Slavoljub, 1993). Perhaps, some of the most vivid and descriptive accounts of trauma have come from the literary world. “Literary accounts offer the first descriptions of what we now call post-traumatic stress disorder (PTSD). For example, authors including Homer (*The Iliad*), William Shakespeare (*Henry IV*), and Charles Dickens (*A Tale of Two Cities*) wrote about traumatic experiences and the symptoms that followed such events” (PTSD: National Center for PTSD, 2007). Parry-Jones and Parry-Jones (1994) described that much of the early history regarding mental health diagnoses of trauma came from nineteenth century accounts of railway accidents (van der Kolk, Herron, & Hostetler, 1994) and combat events (Harrigan, n.d.).

The precipitant to a diagnosis of PTSD is an unexpected traumatic stressor. The stressor can be exposure to traumatic events of combat, assault including assault of loved ones, severe accidents or physical injury, acts of terrorism, and natural disasters. The best predictors of PTSD include the intensity of the trauma, several predisposing demographics (e.g., divorce, poverty circumstances, and grief) (Ogle, Rubin, Berntsen, & Siegler, 2013), and finally, certain predisposing personality variables (e.g., anxiety or depression syndromes) (Javidi & Yadollahie, 2012). There has also been recent interest in potential genetic factors in PTSD susceptibility (Guffanti, Kaufman, Lebois, & Ressler, 2018).

Any PTSD symptom may be targeted for deception since the symptoms are well publicized and depicted in the media. Genuine, but mild PTSD sufferers may exaggerate symptoms, or those unaffected with the condition can fabricate symptoms. Selected PTSD symptoms can be targeted for denial. Symptoms may be chosen that are unverifiable in nature (e.g., flashbacks, nightmares, and suicide ideation). Other symptoms can be severe and/or have some basis. In general, response styles of PTSD fakers present a varied picture and are not by any means limited to war veterans (Geraerts et al., 2009). Malingered PTSD or deceptive PTSD presentation presents yet another form of clinical deception for which the unsuspecting clinician must develop an index of suspicion (Chafetz & Underhill, 2013; Guriel & Fremouw, 2003; Hall & Hall, 2006).

Our forensic interest in PTSD and related stress reaction diagnoses emanates from PTSD’s intrinsic self-reporting attributes and thereby its susceptibility to malingering dynamics. Malingering in the form of elaboration and fabrication are potentials even when serious trauma is an element of a PTSD condition. PTSD-related deception is often impelled by the anticipation of secondary rewards. In recent years, particularly since the Vietnam conflict, PTSD has emerged as a prominent, diagnostic claim for a wide range of

disability actions. Also, PTSD has come to play a significant role in the courtroom in civil and criminal litigation. For example, PTSD has been cited as a psychiatric basis regarding competency, criminal responsibility, and in matters of sentencing mitigation. A case example of military combat-related PTSD is presented below.

Case example—Sgt. F.: Sgt. F was a Vietnam returnee who was followed by one of the authors (JGP) at Walter Reed Army Medical Center in the late 1960s. Shortly prior to being drafted into military service, Sgt. F graduated high school and married his high school sweetheart. Sgt. F graduated from a local municipality police academy and was just completing 16 months of working as a police officer. Sgt. F was of large physical stature and had enjoyed participating in many sports activities while in high school. He had been a star football player with his high school. Sgt. F reported that he was pleased with his emerging career as a police officer, and he intended to remain in that line of work.

He was not surprised when he was drafted because he held a high Selective Service draft number. Immediately following basic training, he was deployed to Vietnam. His leadership abilities were recognized, and he quickly advanced to the rank of sergeant within an infantry division. Sgt. F. described that he enjoyed the camaraderie with his fellow soldiers. Sgt. F. participated in many small “clean-up” patrol ventures following major assault efforts by large troop forces. Near the end of his 18-month required deployment, he led a small patrol through an isolated Vietnamese village. Sgt. F. and two colleagues were walking down a dirt road and were approached by a woman and child who were standing on the side of the road approximately 40 feet ahead. Later, Sgt. F. recalled that something about the circumstances had made him feel uneasy. As Sgt. F. and his colleagues moved ahead several steps, an explosive mine detonated apparently triggered by the footstep of the soldier to Sgt. F’s right. Although momentarily deafened by the explosion, Sgt. F. recalled that he could simultaneously see the elderly woman bend over and the child pulled the trigger on a machine gun strapped to the woman’s back.

Sgt. F’s two companions were both mortally injured, and their gruesome deaths were witnessed by Sgt. F. Sgt. F. had injuries on both sides of his body, but he was able to walk. Sgt. F. was rescued by another patrol who had come quickly to the scene after overhearing the explosion and the gunfire. Within several days, Sgt. F. was evacuated back to the United States and hospitalized at Walter Reed Army Medical Center. We conducted an initial diagnostic interview with Sgt. F. approximately six days after the incident. Sgt. F. was heavily bandaged on his right side; he explained that he had incurred multiple shrapnel wounds, and that his hearing was still slowly recovering. Sgt. F. painfully described witnessing the fatal impact and injury of his two companions. He shook his head in disbelief; he then tearfully questioned out loud, “I don’t understand how I did not have more serious injuries.”

At one point during the interview, first responders clamored by on the outside roadway. There were sirens and commotion. When the distraction subsided, we observed Sgt. F. huddled down between the desk and his chair. He was visibly shaking and of pale color. As he slowly returned to his chair, he apologized and acknowledged, “I still feel shaky.” Over the course of the next few weeks, Sgt. F. slowly recovered from his physical injuries, and his bandages were gradually removed. He continued to complain of difficulties concentrating, sleeping, and controlling his emotions. In succeeding meetings, we met Sgt. F’s wife and other family members all of whom presented as sympathetic and supportive.

Sgt. F.’s next ordeal was a series of interviews with military staff and civilian representatives from the Veterans Administration. The looming issue was whether Sgt. F. qualified for a diagnosis of PTSD and related VA benefits, and if so, what level of benefits should be awarded. Moments into the first interview, Sgt. F. reacted with mild anger challenging that if his status

was not clear and obvious, the VA should not bother with any consideration of benefits or follow-up eligibility. It was Sgt. F.'s wife who pleaded her husband's status and appeared to garner an approving posture by the VA representatives.

Our case example of Sgt. F. was one of hundreds of Vietnam returnee's whose evaluation and treatment the author participated in with multitudes of other clinical staff. The Vietnam conflict was a controversial event for the United States and represented a not well-regarded political episode by the general public. These factors unfortunately were contributory to the evolution of the PTSD diagnosis.

These developments prompted a total revamping of this chapter from the second edition. Since the second edition, two new versions of the DSM of The American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders* (1980, 2004, 2013) have been released with each encompassing material changes in the PTSD diagnosis. Additionally, the World Health Organization International Classification of Diseases and Disorders ICD-10 remains in effect, and the release of ICD-11 is pending. As with the DSM, the two most recent versions of the ICD reflect an on-going evolution of changes in stress-related diagnoses and specifically with the PTSD diagnosis. The deliberation processes that have gone into the development of the recent versions of the DSM and ICD diagnostic systems have made a concerted effort to incorporate input from clinicians and to be based on data from empirical studies. This effort has been extensive, and has not been without criticisms of discipline bias, cultural insensitivity, and charges of political and financial influences (cf., Barbano et al., 2018; Kuester et al., 2017; Maercker et al., 2014; Spitzer, First, & Wakefield, 2007; Weathers, Marx, Friedman, & Schnurr, 2014).

PTSD has been given different diagnostic names and different diagnostic criteria in the successive revisions of the American Psychiatric Association's DSM (Echterling, Field, & Stewart, 2015). Throughout that history, the key psychological issue has revolved around the operational definitions of what experience constitutes trauma and the nature of related symptoms. In the early versions of the DSM, PTSD was regarded as a reactive, pathological form of persistent anxiety that was precipitated by a trauma. Accordingly, its placement in the early DSM's was under the anxiety disorders category.

The formal diagnosis of PTSD originally evolved from the post combat experiences of World War I and II soldiers and concentration camp survivors who reacted with characteristic clusters of symptoms (American Psychiatric Association, 1980; Kinzie & Goetz, 1996). The prevalence of PTSD in returning Vietnam veterans prompted a first time recognition of the syndrome as a stand-alone diagnosis in the American Psychiatric Association (1980). DSM-III also expanded the criteria of precipitating trauma to include non-combat related trauma, but still trauma that fell outside of "normal human experience." If the precipitating trauma fell within "normal human experience," consequent symptoms were to be diagnosed in the adjustment disorder category. Aside from the obvious issue of defining what trauma fell within or outside of "normal human experience," the change considerably broadened what trauma experience fell within the definition of PTSD. The change resulted in an avalanche of controversy. Salient concerns were that the expanded criteria would result in a massive increase of disability claims and related costs of treatment services (Echterling, Field, & Stewart, 2015). The "official" mental disorder label of PTSD prompted recognition of the defined psychiatric syndrome by the Veterans Administration

and private insurance-carrier underwriters (Friedman et al., 2011). In addition, civil and criminal courts would have to deal with the diagnosis claimed as mitigating in litigation matters. Since its DSM-III formulation, the clinical diagnosis of PTSD in mental health cases is largely based on self-report by patients.

The syndrome continued in DSM-III-R (1987) and DSM-IV (1994). Significant and, once again, controversial changes in the diagnostic criteria were introduced in the most recent version, DSM-V (American Psychiatric Association, 2013). Readers interested in the laborious DSM-V work group review process are referred to the cogent article by Friedman, Resick, Bryant, and Brewin (2010). The PTSD diagnostic changes in the American Psychiatric Association (2013) included simplification of the diagnostic requirements, while at the same time maintaining an effort to minimize overdiagnosis and addressing issues with comorbidities (Brewin, Lanius, Novac, Schnyder, & Galea, 2009). The concerns initiated by the changes of DSM-V continue in active debate (Echterling, Field, & Stewart, 2015; Kuester et al., 2017; Larsen & Berenbaum, 2017; Rosen, 2016; Rosen, Spitzer, & Mc Hugh, 2008; Wortmann et al., 2016).

With the introduction of DSM-III and in succeeding editions, one objective has been to define psychiatric syndromes based primarily on data from empirical studies. Prior versions of the DSM were problematic because of the reliance on different theories of psychopathology, most notably psychoanalysis. Since DSM-III, changes in the criteria for a given psychiatric disorder have been based on new empirical developments. Accordingly, there have been on-going modifications of PTSD criteria based on empirical data. Nonetheless, our understanding of PTSD has continued to be confounded by questions of nomenclature, etiology, and compensation (Kinzie & Goetz, 1996).

The evolution of changes in the PTSD diagnosis over the course of the successive versions of the DSM has become somewhat cumbersome. Every new criteria qualification or change cuts new swaths of potential groups of those eligible or not eligible for the diagnosis and related compensation eligibility (Young, 2013a, 2013b, 2013c). The evolution of these changes in the PTSD diagnosis in the DSM are outlined in [Table 14.1](#).

A second relevant nomenclature system of the PTSD diagnosis is the World Health Organization International Classification of Diseases and Disorders. Reed, Correia, Esparza, Saxena, and Maj (2011) conducted a global survey of 4800 psychiatrists from 44 countries regarding their use of diagnostic classification systems. One new and unique aspect of this study was utilizing the Internet to collect global data from respondents. Seventy percent of the respondents reported reliance on the ICD-10 and 29% reported utilization of the DSM-IV. Evans et al. (2013) conducted an international study of over 2100 psychologists from 23 different countries. Over 60% of the respondents utilized a formal diagnostic classification system; 51% of the psychologists utilized the ICD-10 as their diagnostic research, and 41% employed the DSM-IV. Maercker et al. (2013) summarized the findings of a ICD-11 work group in which the most frequently cited stress-related diagnoses worldwide of psychiatrists and psychologists were PTSD and adjustment disorder.

Table 14.1 The Evolution of the PTSD Criteria in the DSM

DSM Version	Vague Trauma Terms	Historical Combat Base	Diagnostic Label/Features
DSM-I (1952)	“shell shock” “combat fatigue” “traumatic neurosis” “battle fatigue” “combat stress reaction” (CSR) “war trauma” “combat neurosis”	American Civil War (1861 to 1865); World War I (1914–1918); World War II (1939–1945); Korean War (1950–1953)	Gross Stress Reaction • Not a mental disorder
American Psychiatric Association (1968)			Transient Situation Disturbances • Not a mental disorder
American Psychiatric Association (1980)	PTSD “post-Vietnam syndrome” • Trauma outside usual human experience and capable of producing distress in most who are directly exposed	Vietnam Conflict (1965–1975)	Post-Traumatic Stress Disorder • Is a mental disorder • If trauma within usual range of human experience, diagnosis is adjustment disorder • Veterans administration must offer assessment and treatment services
DSM-III-R (Revision) (1987)	PTSD	Gulf War (1990–1991)	• Added delayed onset specifier Post-Traumatic Stress Disorder • Defined “symptom clusters”; • “Added age-specifiers” defining children and adolescent trauma reactions
DSM-IV (1994)	PTSD	War in Afghanistan (2001–present) Iraq War (2003–2011)	Post-Traumatic Stress Disorder/Criteria A. Added indirect exposure to trauma definition; observers and family members as indirect targets qualifying for diagnosis • Eliminated requirement that stressor be outside usual human experience

(Continued)

Table 14.1 (Continued) The Evolution of the PTSD Criteria in the DSM

DSM Version	Vague Trauma Terms	Historical Combat Base	Diagnostic Label/Features
DSM-IV-TR (Text Revision) (2000)			A2. Response to the event involved fear, helplessness, or horror • Defined three symptom clusters: B. “Persistent re-experience” C. “Persistent avoidance” D. “Persistent hyper arousal” E. Duration of at least one month F. Clinically significant distress/impairment • Added specifiers acute, chronic, and delayed • “Delayed-onset” PTSD occurs at 6 or more months after index trauma exposure • Thus, for a diagnosis of PTSD, DSM-IV, requires one re-experiencing, three avoidance, and two arousal- and reactivity-related symptoms out of 17 qualifying symptoms.
	PTSD		Post-Traumatic Stress Disorder • Trauma redefined; now, must be “life threatening” and have “intense” emotional response • Added new specifiers of, “acute,” “chronic,” and “delayed onset”
DSM-V (2013)			Post-Traumatic Stress Disorder A. Traumas experienced may involve war, natural disasters, vehicle accidents. Expanded sexual and/or domestic violence as sources of trauma. • Restricted definition of trauma to subject being physically present and experiencing “direct exposure” • Eliminated criterion A2 (peritraumatic fear, helplessness, horror)
	PTSD • Diagnosis moved from Anxiety Disorders category to new “Trauma and Stressor related Disorders” category		B. “Persistent re-experience” C. “Persistent avoidance” D. “Persistent numbing”

(Continued)

Table 14.1 (Continued) The Evolution of the PTSD Criteria in the DSM

DSM Version	Vague Trauma Terms	Historical Combat Base	Diagnostic Label/Features
			E. “Persistent hyperarousal”
			F. Duration of at least one month
			G. Clinically significant distress/impairment
			• Added “reckless” or “destructive” behavior to existing hyperarousal symptom cluster
			• New specifier for dissociative symptoms such as depersonalization and derealization
			• Symptoms not attributable to medical condition or ingestion of psychogenic substances
			• Thus, for a diagnosis of PTSD, DSM-V requires one re-experiencing, one avoidance, two cognition- and mood-related, and two arousal- and reactivity-related symptoms out of 20 qualifying symptoms.
			• Added new set of criteria for children aged 6 or younger (PTSD preschool subtype)
			• Added PTSD dissociative subtype
			• Eliminated acute and chronic specifiers
			• Wording of “With Delayed Onset” changed to “With Delayed Expression”

Source: Echterling, L.G., et al., Evolution of PTSD diagnosis in the DSM, in Safir, M., Wallach, H., & Rizzo, A. (Eds.), *Future Directions in Post-Traumatic Stress Disorder*, Boston, MA, Springer, 2015; Friedman, M.J., et al., *Depress. Anxiety*, 28, 750–769, 2010; Kuester, A., et al., *Eur. J. Psychotraumatol.*, 8, 1386988, 2017.

Table 14.2 PTSD (F43.1) Criteria in ICD-10 and Proposed ICD-11

Nomenclature System	Diagnostic Criteria
World Health Organization (1993)	A. Exposure to a stressful event or situation of exceptionally threatening or catastrophic nature likely to cause pervasive distress in almost anyone B. Persistent re-experiencing C. Avoidance D. Either (1) or (2) below: 1. Inability to recall important aspects of the stressor 2. Persistent hyperarousal (two of five), i.e., trouble falling asleep; irritability; trouble concentrating; hyperalertness; startle response E. Criteria B, C, and D must all be met within 6 months of the stressful event
World Health Organization (2018; pending full release in the USA in October 2025). Two possible stress-related diagnoses. Only one of the two diagnoses can be assigned per individual.	1. PTSD (Post-Traumatic Stress Disorder) A. Exposure to a stressful event or situation of exceptionally threatening or horrific nature likely to cause pervasive distress in almost anyone B. Persistent re-experiencing that involves not only remembering the traumatic event, but also experiencing it as occurring again C. Avoidance D. Persistent hyperarousal E. Clinically significant functional impairment 2. CPTSD (Complex Post-Traumatic Stress Disorder) Includes each of the above core criteria of PTSD plus endorsement of one symptom from each of three additional subdomains collectively referred to as DSO, that is “disturbances in self-organization.” The DSO subdomains are: F. Affective dysregulation G. Negative self-concept H. Disturbance of relationships Endorsement of the subdomains symptoms must include evidence of functional impairment associated with each symptom.

Source: Brewin, C.R. et al., *Clin. Psychol. Rev.*, 58, 1–15, 2017; Hyland, P., et al., *Acta Psychiatr. Scand.*, 136, 313–322, 2017; McElroy, E., et al., *World Psychiatry*, 18, 236–237, 2019; Stein, D.J., et al., *Depress. Anxiety*, 31, 494–505, 2014.

The new ICD-11 (still pending release in the United States) significantly expands the section associated with PTSD over the existing DSM and ICD diagnoses. The expansion was based on research utilizing the newly developed International Trauma Questionnaire (Hyland et al., 2017). The ICD-10 and the currently proposed ICD-11 criteria for PTSD are summarized in [Table 14.2](#).

With the introduction of DSM-III, and in succeeding editions, the objective has been to define psychiatric syndromes based primarily on data from empirical studies. Since DSM-III, changes in the criteria for a given psychiatric disorder have been based on new empirical developments. Accordingly, there have been on-going modifications of PTSD criteria based on empirical data.

As noted, a problem with the PTSD diagnosis is that it is largely based on the subjective report by the patient. Subjective complaint of psychologically based symptoms that are not readily verifiable raise understandable concerns with respect to litigants seeking monetary compensation. Likewise, claimed PTSD symptoms can be the basis of requested relief from restrictive circumstances (e.g., incarceration; locked down hospital ward) or punitive action (consequences of pending litigation). Because of the complexities of the diagnosis, another consideration is a reluctance by professionals to make a finding of PTSD because it may be based on “faked” symptoms (Carmody & Grossman, 2005). The diagnostic category of PTSD has been a popular area of research, and there have been thousands of articles dealing with variants of PTSD in clinical presentation. The content of these empirical studies has varied in part based on the evolving changes in the DSM criteria.

The accessibility of PTSD diagnostic criteria allow the resourceful malingerer to report the “right” symptoms. Assertions that individuals dream or think about a traumatic event should be verified by others who have heard them talk about it in situations that are not related to the litigation. In addition, the clinician must obtain a detailed history of living patterns preceding the stressor. For example, symptoms such as difficulty concentrating or insomnia may have been present before the traumatic event. Baseline activity occurring prior to the trauma taking place should be compared with reported impairment at the time of the evaluation. The clinician must carefully examine the reasonableness of the relationship between the symptoms and the stressor, the time elapsed between the stressor and the symptom development, and the relationship between any prior psychiatric symptoms and current impairment (Young, 2017).

The applicability criteria of PTSD have been expanded to virtually every kind of trauma inducing psychological stress. Victims of PTSD include individuals exposed to any of the overlapping categories of: (1) consummated, attempted, and threatened violent crimes; (2) child and spouse abuse; (3) auto accidents involving severe injury; (4) industrial accidents; (5) civilian catastrophes; and (6) war and terrorist associated activities. The spectrum of PTSD applications across studies is summarized in [Table 14.3](#)

While the continuing expansion of PTSD trauma applications is perhaps a tribute to the creativity of mental health professionals, there are other issues involved. PTSD is an identified psychiatric problem. As such, it is subject to the Veterans Administration and managed care benefits. PTSD-related personal injury and wrongful death civil claims are garnering large awards. In criminal cases, PTSD has been asserted either as a basis for the insanity defense, as a basis for diminished capacity, or as a factor in mitigation of punishment.

Two initial forensic challenges with all PTSD cases are ruling out pre-existing PTSD and accounting for any current comorbid psychiatric disorders. At the very least, the pre-existing and comorbid dynamics must be acknowledged, and some effort made to factor out the relative etiological roles to the victim’s current status. One other PTSD diagnostic challenge can be situations of delayed onset. With this qualifier, understanding the relationship of a symptom or symptoms to a specific trauma and documenting symptom patterns can become quite complicated (Andrews, Brewin, Philpott, & Stewart, 2007). In one study dealing with civilian survivors of mass shootings, the rates of pre-existing PTSD were high, but not predictive of post disaster PTSD (North, Smith, & Spitznagel, 1994). In the same study, 50% of the women and 25% of the men were diagnosed with comorbid

Table 14.3 The Spectrum of PTSD Applications in Studies

PTSD Trauma Presentation	Study
Accident-related pain, affective disturbance, and disability	Geisser, Roth, Bachman, and Eckert (1996)
Adolescent cancer	Pelcovitz et al. (1998)
Adolescent psychiatric inpatients	Koltek, Wilkes, and Atkinson (1998)
Adolescent survivors of a cruise ship disaster	Yule, Ten Bruggencate, and Joseph (1994)
Australian Vietnam veterans	O'Toole, Marshall, Schureck, and Dobson (1998)
Bereaved children of the Oklahoma City bombing	Pfefferbaum et al. (1999)
Bereavement	Zisook, Chentsova-Dutton, and Shuchter (1998)
Bone marrow transplantation after breast surgery patients	Jacobsen et al. (1998)
Bosnian refugees, 1 year after resettlement in the United States	Weine et al. (1998)
Breast cancer treatment	Cordova et al. (1995)
Brain injury victims	Difede and Barocas (1999)
California toxic spill victims	Freed, Bowler, and Fleming (1998)
Children and adolescents	Cohen & American Academy of Child and Adolescent Psychiatry Work Group on Quality Issues (1998); Cuffe et al. (1997); Famularo et al. (1996); Greene (2017); Mack (2011); McCloskey and Walker (2000)
Children exposed to disaster	Anthony, Lonigan, and Hecht (1999)
Child sexual abuse victims and their mothers	Timmons-Mitchell, Chandler-Holtz, and Semple (1997)
Combat	Henning and Frueh (1997); Hall (1990)
Combat-related head injury	Chemtob et al. (1998)
Concussions from motor vehicle accidents	Price (1994)
Criminal defense of Vietnam veterans	Higgins (1991)
Croatian soldiers at East Slavonian front	Pozgain, Filakovic, and Perekovic (1992)
Dutch war veterans	Jongedijk, Carlier, Schreuder, and Berthold (1996)
Factitious PTSD in fishing disaster victim	Fear (1996)
Female Vietnam war veterans	Wolfe, Schnurr, Brown, and Furey (1994)
HIV victims	Kelly et al. (1998)
Holocaust survivors	Yehuda, Kahana et al. (1995)
Inner city violence victims and witnesses	Gillikin et al. (2016)
Incarcerated women with histories of childhood abuse	Zlotnick (1997)
Jewish adolescents' brief exposure to concentration camps	Silverman et al. (1999)
Khmer children survivors of the horrors of the Pol Pot regime (1975–1979)	Sack, Him, and Dickason (1999)
Mass shooting survivors	North, Smith, and Spitznagel (1994)
Mild traumatic brain injury	Bryant and Harvey (1998); Bryant, Mayou, and Lloyd-Bolstock (1997)

(Continued)

Table 14.3 (Continued) The Spectrum of PTSD Applications in Studies

PTSD Trauma Presentation	Study
Mothers of pediatric cancer survivors	Manne et al. (1998)
Motor vehicle accident victims	Blanchard et al. (1995a, 1995b, 1995c); Geisser, Roth, Bachman, and Eckert (1996)
Myocardial infarction	Kutz Shabital, Solomon, Neumann, and David (1994)
Nonsexual assault victims	Riggs, Rothbaum, and Foa (1995)
Pediatric PTSD victims	Herringa (2017)
Peers of adolescent suicide victims	Brent et al. (1995)
Physician internships	Klamen, Grossman and Kopacz (1995)
PTSD in elderly people	Weintraub and Ruskin (1999)
PTSD in PTSD caretakers	Luftman et al. (2017)
PTSD simulated to disguise opiate withdrawal	Salloway, Southwick, and Sadowsky (1990)
Rape victims	Resnick, Kilpatrick, and Lipovsky (1991)
Refugees with history of exposure to severe trauma	Ferrada-Noli, Asberg, Ormstad, Lundijn, and Sundbom (1998)
Schizophrenia patients hospitalized involuntarily	Priebe, Bocker, and Gunkel (1998)
Southeast Asian refugees	Kinzie et al. (1990)
Surviving siblings and parents of unexpected childhood death	Appelbaum and Burns (1991)
Traffic accident victims	Koren, Amon, and Klein (1999); Ursano et al. (1999)
Trauma survivors	Shalev, Freedman, Peri, Brandes, & Sahar (1997)
Traumatized police officers	Carlier, Lamberts, Fou weis, and Gersons (1996)
Tortured POWs	Kozaric-Kovacic, Marusic, and Ljubin (1999); Neal, Hill, Hughes, Middleton, and Busuttil (1995)
Women hospitalized for eating disorders	Gleaves, Eberenze, and May (1998)
Women with childhood rape histories	Epstein, Saunders, and Kilpatrick (1997)
Work-related injury	Asmundson, Norton, Allerdings, Norton, and Larsen (1998)
Veterans with spinal cord injuries	Radnitz et al. (1998)
Vietnam veterans	Jordan, Nunley, and Cook (1992); Orsillo et al. (1996); Weyermann, Norris, and Hyer (1996); Zatzick et al. (1997)
Vietnam veterans in prison	Sigafoos (1994)

post disaster psychiatric diagnoses, most notably, major depression. Psychopathology was infrequent in subjects without PTSD. The following case illustrates a complicated case of PTSD with multiple family members being affected:

Case example—Jerry S. and family members: Jerry S. was a single, unemployed, 23-year-old Filipino male. In reconstructing an incident of violence, Jerry used a knife to destroy some family pictures in the home of his parents where he still resided. The incident followed a long-standing history of mental health issues.

Jerry's prior behavior included apparently unprovoked violent actions, including Jerry attacking the walls, doors, and living room table with a large knife. Jerry's treating clinicians had explained to his parents that he had been diagnosed with schizophrenia. According to the clinicians, Jerry's violent actions were in response to auditory hallucinations.

In the past, family members had observed Jerry talking to the television, and on several occasions, Jerry had threatened family members with a knife. In the present incident when his father asked him for the knife, Jerry S. started shouting as though his deceased brothers were present in the room, and he then attacked his father. During the next few minutes, Jerry S. also attacked four other family members with the knife, including his sister and his 11-year-old nephew; he fatally stabbed his mother in the heart, and attempted to run his father down with an automobile. He then went to the residence of other family members, knife in hand, covered with blood, and asked them if they wanted to die. He was apprehended the following day by police after escaping from the scene of his violence. A list of the injuries and impact on the surviving victims is provided below:

1. **Fred S.** (the father) was stabbed multiple times in the torso, hand, and shoulder. The victim was hospitalized for 10 days at Sunrise Hospital and subjected to several surgeries for his life-threatening injuries. He was placed on psychotropic medication (Valium) upon release. PTSD symptoms commenced soon after the assault and included sleep problems and poor appetite. PTSD symptoms were still reported several years later. Severe and chronic PTSD included the following:
 - a. Existence of a recognizable stressor that would evoke significant symptoms of distress in almost everyone. This included the wounds, the realization that other family members could be assaulted, and then later learning about the multiple assaults and his wife's death
 - b. Re-experiencing the trauma. This included frequent nightmares of the incident, vivid daytime memories of the assaults and death of his wife, and reoccurring panic attacks
 - c. Numbing of responsiveness to, or reduced involvement, with the external world. This included a loss of interest in usual activities, problems in trusting others, and few, if any, leisure activities. Fred attempted to remain active in the yard to a limited degree as a coping mechanism for the incident, for example, continuing to plant the favorite vegetables of his wife in the family garden even though that was viewed as unnecessary by other family members. He occasionally broke down in tears
 - d. Relevant other symptoms. These included difficulties falling asleep; waking during the night, usually around 2 or 3 a.m. with continued wakefulness for the remainder of the day; startle responses; and avoidance of activities that reminded him of the incident including moving from the residence where the violence took place
2. **Lucille L.** was stabbed by her brother multiple times in the arm, back, and hand; some of her wounds were sustained when she attempted to keep the perpetrator away from her baby, Tom L. Some stab wounds were deep with a confirmed pneumothorax (right chest), and she had subsequent exploratory surgery at Sunrise Hospital. PTSD symptoms commenced while she was in the hospital and included insomnia and obsessive rumination about the incident. She was given medication for sleep (Dalmane), and the medical record contained a notation that the patient appeared depressed. Lucille reported that for 2 months after hospitalization, she could barely move. For 4 months after the incident, she could not engage in housework, sex, socialization with others, or take care of her son Tom. PTSD symptoms reported

in 2010 continued with only mild improvement through 2010. Inspection of pre-2009 medical records revealed that Lucille was previously a basically healthy person. Chronic PTSD is suggested as follows:

- a. Existence of a recognizable stressor that would evoke significant symptoms of distress in almost everyone. This included for Lucille the sustained wounds, fear that her wounded child would die, and knowledge of the assaults on family members including the death of her mother and the stabbing of her son
 - b. Re-experiencing the trauma. This included vivid memories and flashbacks of the assaults and panic attacks where she became anxious, faint, dizzy, and behaviorally disorganized
 - c. Numbing of responsiveness to or reduced involvement with the external world. For Lucille, this meant often feeling emotionally blocked, unresponsive, and/or unable to express her feelings
 - d. Relevant other symptoms: Insomnia, waking up during the night, and excessive jumpiness were present
3. **Tom L.**, son of Lucille L., sustained stab wounds to the left side of his forehead, left thigh, and under his chin (all about 1-in. lacerations). Prolonged crying was witnessed up to and long after admission to the hospital. The possible onset of PTSD, shown by nightly crying (November 2010) and sleep disturbances, included nightmares of a man attacking him (February 2010)
 4. **Dolores S.**, aunt of the perpetrator, witnessed Jerry S. walk into her house with blood on his body and a knife in his hand. He walked up to and held Dolores' daughter, Ann, age 6 at the time, and asked her several times if she wanted to die. He then asked Mrs. S. several times if she wanted to die, demanded that she look at the blood on his body, and informed her that he had just killed his parents and sister. PTSD symptoms shown by Mrs. S. appeared in 1988 and 1991 and included: (a) vivid memories of the incident, (b) difficulty falling asleep, (c) difficulty concentrating, (d) waking up during the night after dreaming of the incident, (e) difficulty with her short-term memory, particularly whether or not she had flushed the toilet and washed her hands, possible indications of guilt and anxiety, (f) excessive jumpiness, and (g) avoidance of activities that remind her of the incident. She was particularly obsessed about her children's safety when they are alone at home. Work was significantly disrupted because of inquiries from others regarding the incident and when Jerry was due to leave the state hospital. She felt that the family name had been tarnished in their small community
 5. **Vicenta P.**, mother of Dolores, witnessed most of the assault on Dolores prior to escaping from the house to get help. She believed that her daughter and granddaughter had been killed or wounded before finding out otherwise. Her PTSD symptoms included: (a) vivid memories of the threatened killings, (b) panic attacks, (c) startle responses, (d) waking up early in the morning, and (e) avoidance of activities that reminded her of the incident
 6. **Ann S.**, daughter of Dolores, whose life was threatened by the perpetrator, reported PTSD symptoms including: (a) flashbacks and vivid memories of the threatened killing, (b) nightmares of the incident, (c) waking up during the night, and (d) avoidance of activities that remind her of the incident
 7. **Pedro S.**, husband of Dolores, appeared to have suffered from secondary PTSD symptoms caused by the near-death experiences of his wife and daughter, fear that the perpetrator would return prior to his apprehension, and the trauma of discovering that his mother had been killed and other relatives wounded by his

wife's nephew. Symptoms included: (a) vivid memories of the incident as related to him by his wife, child, and mother-in-law, and as he observed the scene prior to the arrival of the police and at the hospital where the victims were taken, (b) nightmares of the near death of his wife and daughter, (c) difficulty falling asleep with later mid-sleep cycle wakefulness, and (d) avoidance of activities that remind him of the incident.

In this case, some symptoms obviously related to the original trauma were not reported because they were not of at least moderate severity. Conservative interpretations of symptoms within the context of a comprehensive evaluation are a safeguard against overzealous diagnosis of PTSD. Not every complaint and symptom of a victim is necessarily a symptom of PTSD, and not every PTSD-relevant symptom is of sufficient severity to include in the diagnosis.

Information from significant others, as well as corroborating documentation, is critical to cross-validating a PTSD diagnosis. Denial, minimization, and avoidance are common findings with individuals with genuine PTSD and, hence, should be targets of detection and measurement. As with virtually every somatic and psychological condition, PTSD can be subjected to faking and complete fabrication. Once PTSD is claimed, the forensic clinician is burdened with verifying a claimed diagnosis that is highly subject to distortion and falsification. The analysis begins with exploring the nuances of the original stressor circumstances and extends through thoughtful exploration of antecedent, current, and post trauma comorbid issues.

PTSD Predictors

An important area of consideration in any forensic analysis of PTSD is the clinician's understanding of comorbid variables that may be indicators of the intensity and the course of PTSD. The presence of one or more of these factors increases the likelihood of actual PTSD; absence of these comorbid factors decreases that likelihood. Most PTSD patients recover within 1 year of their traumatic experience. Those who remain ill for a year or more rarely recover completely (Freedman, Brandes, Peri, & Shalev, 1999). Established predictors can be useful in analyzing a case of PTSD in terms of whether the reported clinical history coincides with established predictors. Ehlers, Mayou, and Bryant (1998) described a longitudinal study with motor vehicle accident victims who were diagnosed with PTSD. The subjects had visited an emergency room shortly after the accident, and again at 3 and 12 months for follow-up. The prevalence rate of PTSD at 3 months was 21% and at 12 months 16.5%. Based on the statistical analysis of frequency data from structured questionnaires completed by patients, the authors described psychological predictors associated with PTSD symptoms. In a longitudinal study by Freedman, Brandes, Peri, and Shalev (1999), it was found that depressive symptoms were the best predictors of PTSD at 4-month and 12-month post trauma intervals. Simon (1999) described a PTSD Prognostic Checklist designed to assist mental health clinicians in evaluating PTSD prognosis. [Table 14.4](#) lists a summary of PTSD, morbid risk factors by representative studies.

Table 14.4 The Spectrum of Comorbid Risk Factors Associated with Diagnosis of PTSD

Comorbid Risk Factors	Representative Study(s)
Alcohol abuse	Blanchard et al. (1996); Blalock et al. (2019)
Biological and genetic factors	Yehuda (1999); Guffanti, Kaufman, Lebois, and Ressler (2018)
Childhood stressors (e.g., parental alcoholism, parental unemployment, and parental strictness)	Emery, Emery, Shama, Quiana, and Jassais (1991); Donovan, Padin-Rivera, Dowd, and Dudley (1996); National Sexual Violence Resource Center (2011)
Chronic pain, affective disturbance	Beckham, Crawford et al. (1997); Geisser, Roth, Bachman, and Eckert (1996)
Civil litigation, e.g., workers compensation, transportation accidents, crimes compensation, and compensation to relatives	Litigation is a contributing variable: Blanchard et al.; Bryant and Harvey (1995) Litigation is not a contributing variable: Mendelson (1995); Mayou, Tyndel, and Bryant (1997); Bryant, Mayou, and Lloyd-Bolstoc (1997)
Cocaine dependence	Najavits et al. (1998)
Cognitive factors	Dunmore, Clark, and Ehlers (1999)
Combat-related guilt (survival guilt, guilt over acts of omission and commission, guilt about thoughts and feelings)	Henning and Freuh (1997)
Comorbidity-80% of PTSD cases meet criteria for at least one other psychiatric disorder	Brady (1997); Weyermann, Norris, and Hyer (1996); Javidi and Yadollahie (2012)
Depression, comorbid	Freedman, Brandes, Peri, and Shalev (1999)
Dissociation during or following trauma	Foa and Hearst-Ikeda (1996); Spiegel (1991); Koopman, Classen, and Spiegle (1994)
Elevated corticotropin-releasing hormone levels in combat related PTSD	Baker et al. (1999); Yehuda, Boissoneau, Lowy, and Giller (1995)
Females more susceptible to PTSD	Ehlers, Mayou, and Bryant (1998); Kessler, Sonnega, Bromet, Hughes, and Nelson (1995)
Gerontological factors	Cuffe et al. (1997); Hankin et al. (1996)
Head trauma injury	Chemtob et al. (1998)
Impaired ability of elderly people to cope with trauma	Weintraub and Ruskin (1999)
Inner city civilian violence exposure	Gillikin et al. (2016)
Low precombat intelligence	Macklin et al. (1998)
Maltreated children	Famularo, Fenton, Kinscherff, Ayoub, and Bamum (1994)
Mothers of maltreated children	Famularo, Fenton, Kinscherff, Ayoub, and Bamum (1994)
Negative parenting behavior predicting combat related severity of PTSD	McCranie, Hyer, Boudewyns, and Woods (1992)
Nicotine dependence	Beckham, Kirby et al. (1997); Kheirallah et al. (2019)
Pediatric PTSD exposure	Herringa (2017); Vasileva, Haag, Landolt, and Peterson (2018)
Perceived threat to life	March (1993); Mayou, Bryant, and Duthie (1993); Mayou, Tyndel, and Bryant (1997); Blanchard et al. (1995, 1996)
Persistent financial problems	Mayou, Bryant, and Duthie (1993); Mayou, Tydel, and Byrant (1997); Blanchard et al. (1997)
Persistent medical problems	Mayou, Bryant, and Duthie (1993); Mayou, Tydel, and Bryant (1997); Blanchard et al. (1997)

(Continued)

Table 14.4 (Continued) The Spectrum of Comorbid Risk Factors Associated with Diagnosis of PTSD

Comorbid Risk Factors	Representative Study(s)
Psychophysiological changes	Gurvits, Shenton, Hokama, and Ohta (1996); Yehuda, Kahana et al. (1995)
Psychosocial adjustment	McFall, Smith, Roszell, Tarver, and Malas (1990)
Reactions of intimate others to victim's trauma (i.e., mothers of child sex abuse victims)	Timmons-Mitchell, Chandler-Holtz, and Semple (1997)
Self-reported interpersonal hostility	Beckham, Crawford et al. (1997)
Substance abuse, comorbidity	Brown, Stout, and Gannon-Rowley (1998); Brown, Stout, and Mueller (1999); Saladin, Brady, Dansky, and Kilpatrick (1995); Sharkansky, Brief, Pierce, Meehan, and Mannix (1999); Wasserman, Havassy, and Boles (1997)
Suicidal behavior after severe trauma	Ferrada-Noli, Asberg, Ormstad, Lundijn, and Sundbom (1998)
Trauma severity	Blanchard et al. (1995)
Trauma caregivers	Luftman et al. (2017)
Unconsciousness at trauma	Mayou, Bryant, and Duthie (1993); Blanchard et al. (1996)
Victim perception of assault safety	Cascardi, Riggs, Hearst-Ikeda, and Foa (1996)
Vietnam veteran's physical health status and somatization	Beckham, Crawford, et al. (1997); Beckham, Kirby, et al. (1997)

Detection of Falsified PTSD

The Vietnam conflict had an extended history and involved a complex political background encompassing multiple countries. As we have previously described, the Vietnam era was a decided turning point in the history of PTSD diagnostic criteria. The Vietnam conflict was marked by the exit of the involvement of the United States in 1973. According to a longitudinal study (Marmar et al., 2015) of a national sample of Vietnam veterans, approximately 300,000 met the criteria for PTSD. The data reflected high comorbid incidence of major depressive disorder and substance abuse disorders. Of note, this study was conducted some 40 years after the end of the United States involvement in the Vietnam conflict. We also note that this study did not include veteran data from other involved countries, which would have included additional casualty numbers.

Other chapters in this text have covered the use of traditional standardized psychological instruments useful in the detection of deception and malingering dynamics with different forensic circumstances. Those same psychological instruments, with the same cautions of appropriate ethical use, are applicable in matters of PTSD where falsification is a concern. Presently, we will focus on several specific PTSD-related psychological scales and measures. All these measures were initially developed during the Vietnam and post Vietnam era. We itemized these measures in the second edition of this book. Some of these measures are still in use, but others became obsolete with the extensive changes in the DSM and ICD diagnostic criteria for PTSD. A few new psychometric measures have evolved. [Table 14.5](#) lists measures that are still being cited in the PTSD research literature. The reader should note that most of these measures are intended for specific applications.

Table 14.5 Psychometric Measures Sensitive to PTSD Conditions

Measure	Study
Clinician-administered PTSD scale	Scotti, Sturges, and Lyons (1996); Weathers, Keane, and Davidson (2001)
Combat Exposure Scale (CES)	Lund, Foy, Sippelle, and Strachan (1984); Keane et al. (1989); Suozzi and Motta (2004)
Diagnostic Interview Schedule for DSM-IV (DIS-IV)	Robins et al. (2000); Segal (2010)
Diagnostic Interview Schedule-PTSD	Heizer, Robins, and McEvoy (1987)
Figley PTSD Scale	Watson, Juba, and Anderson (1989); Bride, Robinson, Yegidis, and Figley (2004)
Impact of Event Scale (IOES)	Horowitz, Wilner, and Alvarez (1979); Gaon, Kaplan, Dwolarzky, Perry, and Witzum (2013)
Jackson Structured Interview for PTSD	Malloy, Fairbank, and Keane (1983)
Mississippi Scale for Combat-Related PTSD	Keane, Caddell, and Taylor (1988); Miller, Kaloupek, Dillon, and Keane (2004)
Personality Assessment Inventory	Lange, Sullivan, and Scott (2010)
MMPI PTSD Scale	Keane, Malloy, and Fairbank (1984); Arbisi, Ben-Porath, and McNulty (2007)
Mood Disorder Questionnaire (MDQ)	Paterniti and Bisserbe (2018)
PTSD Checklist	Kulka and Schlenger (1986)
PTSD Scale for DSM-5 (CAPS-5)	Weathers et al. (2018)
Self-Rating Scale for PTSD (SRS-PTSD)	Carlier, Lamberts, Van Uchelen, and Gersons (1998)
Structured Clinical Interview for DSM-IV-TR	Stuart et al. (2014)
PTSD Checklist for DSM-5 items (PCL-5+)	Blevins, Weathers, Davis, Witte, and Domino (2015); Bovin et al. (2015)
Trauma Symptom Checklist for Children (Form TSCC-A)	Briere (1996)
War Zone PTSD Scale (WZ-PTSD scale)	Drexler (2014); Weathers et al. (1996)
Structured Interview of Reported Symptoms (SIRS)	Rogers, Kropp, Bagby, and Dickens (1992)

Also, of note, while *none* of the [Table 14.5](#) instruments specifically address the problem of dissimulated PTSD, they can still be of use to the crafty forensic clinician.

Some of the instruments were developed for use with PTSD stemming from different etiologies (e.g., combat versus civilian traumas). Any use of the measures cited in [Table 14.5](#) should be in accord with their intended design. Users should also be mindful that PTSD malingerers can fabricate events associated with any of the items in the instruments. This latter point, once again, asserts emphasis on the need to employ multimodal sources of corroboration when assessing PTSD.

In assessing PTSD, it is important to ask specifically about concrete events. The importance of knowing explicit details of the alleged original stressor was illustrated in *Pard v. US* (1984). The civil matter involved two (unsuccessful) claims totaling \$9.5 million. The plaintiff, a Vietnam veteran, asserted that the VA had failed to diagnose his combat-related PTSD, which resulted in his engaging in combative assaultive behavior with first responding police. Sparr and Atkinson (1986) reported on events of the civil trial, which culminated in a ruling that the VA was not negligent.

At the 1984 trial, the government introduced testimony by three fellow soldiers who had served in Vietnam with the complainant. The testimony made it evident that the plaintiff's helicopter was not a gunship, but had been used for the administrative purposes of transporting command staff and ferrying supplies. The witnesses testified that they and the plaintiff were involved in no actual combat activity. The plaintiff had not been wounded by enemy bullets, but was injured when his machine gun malfunctioned, and a metal piece from the gun lodged in his arm. None of the men from the plaintiff's unit had heard of the incident reported by the plaintiff that the squad was involved in a combat mission that was supposed to have rescued a general. During an earlier criminal trial, the jury was not aware of these facts and returned a verdict of "not guilty by reason of insanity" due to PTSD.

In PTSD cases where traumatic brain injury is implicated, neuropsychological tests should be administered. Selected instruments should include those sensitive to PTSD-related issues such as attention, vigilance, short-term memory, judgment, planning, and execution. Indications of non-deliberate distortion should always be ruled out as a possibility. Resnick (1984, 1987, 1988a, 1988b, 1997, 1999) provided extensive discussion of potential indicators of dissimulated PTSD. In general, malingerers avoid acknowledging indicators of psychosis. Simulators will also avoid attending requested or required medical/psychological examinations. Often, there is a history of sporadic employment and a claimed lack of ability to enjoy usual recreational pursuits. Indicators of falsified PTSD can include assertive and early discussion of trauma complaints as opposed to the reluctance of genuine PTSD victims to discuss symptomatology and traumatic events. Other signs can include indignation rather than surprise or indifference when confronted with suspicions of distortion. Finally, there can be an absence of impulse control problems typically observed with bona fide PTSD clients. [Table 14.6](#) summarizes potential indicators of falsified PTSD.

Table 14.6 Potential Indicators of Falsified PTSD

Clinical database
Over idealization of functioning before trauma
Evasiveness
Uncooperativeness
Understandable motive to fake PTSD
Stressor(s)
Reporting of "incapacitating" prior injuries
Emphasizing relationship of stressor(s) to symptoms
Re-experiencing trauma
No nightmares or an unvarying repetitive theme
Grandiose dreams with power themes
Numbed responsiveness/reduced involvement
Poor work record
Discrepant work and leisure activities
Anti-social activities
Arousal symptoms
Inconsistency in symptom presentation (relevant to memory and concentration problems)
No guilt over involvement or surviving the stressor
Anger at authority
Admission of malingering or psychometric evidence or corroborative evidence of dissimulation

Treatment Approaches with PTSD

Our primary interest in this chapter is PTSD syndromes that present with deception or malingering elements. We will, however, briefly comment on the issue of treatment approaches with PTSD cases that are deemed genuine (Smith, Yaya, & Workneh, 2019). The literature describes a multitude of commonly used treatment methods with PTSD (American Psychological Association, 2019; Greenberg, Brooks, & Dunn, 2015). In chronic presentation, PTSD typically involves recurrent symptoms of avoidance and hyper arousal. Both symptoms involve anxiety components which can be highly resistant to intervention. The new diagnostic classifications of DSM-5 reflect criterion thresholds by age (lower for children). In comparison to adult treatment approaches, psychotherapy with children must always take into consideration their respective developmental levels and accordingly involve different treatment approaches (Giacona et al., 1995).

In addition to traditional modes of psychotherapy, the treatment approaches for PTSD that have been described include: cognitive behavior therapy (Bryant et al., 2013; Dam, Ehring, Vedel, & Emmelkamp, 2013; Mott & Teng, 2015), eye movement desensitization and reprocessing, and pharmacological interventions most often including antidepressants, such as serotonin reuptake inhibitors (Amos, Stein, & Ipser, 2014; Ipser & Stein, 2012). Various forms of exposure therapy have been touted as the most relevant and effective treatment measures for PTSD (Foa & McLean, 2016; Mills et al., 2012; Rauch, Eftekhari, & Ruzek, 2012). Exposure therapy technology currently includes computer-aided techniques that have offered additional treatment sophistication (Gerardi, Cukor, Difede, Rizzo, & Rothbaum, 2010).

A new therapeutic technique involves high definition transcranial direct current stimulation (Hampstead et al., 2019). The technique involves electrode stimulation of the right lateral temporal cortex. The right lateral temporal cortex has been attributed with involvement in re-experiencing trauma memories and possibly with hyper arousal. The approach is still experimental, but serves as an appropriate segue into the next section of the chapter involving the neuropsychological underpinnings of PTSD.

PTSD and Cortical Functioning

The search for biological anchors to PTSD is based on the notion that trauma can alter the neurochemistry of the brain (Shalev & Bremner, 2016). Alternatively, pre-existing neuroanatomic correlates may serve to heighten the risk for exposure to combat-induced PTSD (Gurvits, Shenton, Hokama, & Ohta, 1996). Years after a trauma, heightened states of arousal may again trigger PTSD-related neural tracks. Such arousal has been suggested to illustrate a model of classical respondent conditioning in a previously traumatized person (Franklin, 1988; Kolb, 1987, 1988; Lipton & Shaffer, 1988; van der Kolk, 1988). Yet another question is the impact of PTSD on the development of the pediatric brain. Only recently, have imaging studies been conducted with children exposed to PTSD conditions (Herringa, 2017).

Early studies associated neurochemistry factors with PTSD. Affected central nervous system (CNS) structures implicated in PTSD include the limbic system. The limbic system involves projections of the septal-hippocampal complex (subserving anger control and memory), tyrosine hydroxylase production, alpha-2 inhibitory receptors (presynaptic),

and excitatory receptors (post synaptic). The catecholamines, dopamine, norepinephrine, and epinephrine have all been demonstrated to be elevated in Vietnam PTSD veterans compared with control subjects (Jatzko, Schmitt, Demirakca, Weimer, & Braus, 2005; Yehuda, Southwick, Giller, Ma, & Mason, 1992). The authors of this study concluded that the findings supported the hypothesis of enhanced sympathetic nervous system activation in PTSD, and that increased sympathetic arousal may be closely linked to the severity of select PTSD symptom clusters. Yehuda, Boissoneau, Lowy, and Giller (1995) postulated permanent changes in the regulation of the hypothalamic-pituitary-adrenal axis following exposure to trauma. The severity of PTSD was measured by psychometric measures (i.e., the Structured Clinical Interview for Mental Disorders-III-Revised; Impact of Event Scale; Figley PTSD Scale; and the Combat Exposure Scale). Holocaust survivors evidenced low levels of urinary cortisol decades after trauma exposure, suggesting that lower urinary cortisol levels were associated with significant PTSD symptoms and not due to exposure to the trauma, *per se* (Yehuda, Kahana et al., 1995).

In a study by Baker et al. (1999), male combat veterans were tested by a technique of continuous sampling of cerebrospinal fluid for corticotropin-releasing hormone concentrations. The corticotropin-releasing hormone concentration is intimately related to adrenocortical activity, which directly influences emotional responsiveness, and specifically depression. Urinary-free cortisol excretion was also measured. The mean cerebrospinal fluid/corticotropin-releasing hormone levels were significantly greater in the PTSD patients compared with normal subjects. Urinary-free cortisol excretion levels were negatively and significantly correlated with PTSD symptoms.

Other PTSD neuroendocrine relationships have been reported. Serum thyroid studies have indicated unusual thyroid profiles with PTSD. Wang and Mason (1999) described elevated levels of free triiodothyronine, total thyroxine, and thyroxine-binding globulin in Vietnam veterans as compared to controls. Commings, Muhleman, and Gysin (1996) described 58.3% of the 56 Vietnam veterans in their study as carrying the D2A1 dopamine receptor gene, which possibly conferred an increased risk to PTSD. Elevated natural cytotoxicity was found with Vietnam combat veterans when PTSD was comorbid with depression (measured by the Beck Depression Inventory) (Laudenslager et al., 1998). Evidence of chronic neuroendocrine activation in women with PTSD related to child sexual abuse was reported by Lemieux and Coe (1995). Increases in cerebrospinal fluid beta-endorphin (i.e., natural opioid) concentrations were found in PTSD combat veterans compared with normals (Baker et al., 1997).

Studies have also determined similarities between PTSD and traumatic brain injury. The studies have raised speculation about the organic components in PTSD and about delayed-stress reaction with traumatic brain injury. PTSD can involve symptoms like those stemming from cerebral insult (e.g., failing memory, difficulty in concentration, headache, and vertigo). Traumatic brain injury also usually involves emotional problems, such as elevated depression and anxiety, which are likewise common in PTSD. Head injury was found to be more prevalent among PTSD combat veterans compared with veterans without combat experience (Chemtob et al., 1998). Head injury associated with PTSD also indicated more severe PTSD symptoms.

Weintraub and Ruskin (1999) investigated PTSD in elderly people. They noted dysfunctions of the adrenergic system, and the hypothalamic-pituitary-adrenal axis were implicated in the neurobiology of these cases. Price (1994) concluded that head traumas resulting in concussion could not logically be followed by routine claims of PTSD.

He reasoned that if there is no memory of events preceding the injury, there could be no ruminating over the injury and no flashbacks of the trauma. Patients with PTSD are characteristically reluctant to discuss the trauma. In addition, they evidence emotional agitation or withdrawal, and they are bothered by flashbacks. In contrast, concussion patients had no emotional upset in discussing their symptoms and were not troubled by flashbacks. Price concluded if a concussion victim is unable to remember the accident, but subsequently claims PTSD, only the diagnoses of post concussion syndrome or malingering would be supported.

Investigations have explored PTSD psychophysiological arousal measures with assault victims, motor vehicle accident victims, and other civilian traumas (Orr, Pitman, Lasko, & Herz, 1993; Pitman, Saunders, & Orr, 1994; Shalev, Orr, & Pitman, 1993). Across a broad range of these studies, psychophysiological assessment was effective in correctly identifying 60%–88% of PTSD cases. In contrast, 79%–100% of non-PTSD cases were correctly identified (Pitman, Saunders, & Orr, 1994).

In sum, studies from the 1980s and 1990s indicated that psychophysiological arousal measures may sometimes be useful for detecting faked PTSD. The findings, however, were inconsistent; the findings varied across studies, and the findings varied with the arousal measures that were being studied (Blanchard, Kolb, Pallmeyer, & Gerardi, 1982; Butler et al., 2012; Gerardi, Blanchard, & Kolb, 1989; Orr, Pitman, Lasko, & Herz, 1993; Pitman, Saunders, & Orr, 1994; Shalev, Orr, & Pitman, 1993).

As technology advanced, researchers turned to more sophisticated neurophysiological measures. McCaffrey, Lorig, Pendrey, McCutcheon, and Garrett (1993) examined electroencephalogram (EEG) changes in response to trauma- and non-trauma-related odors with small groups ($n = 5$) of male Vietnam veterans and a comparison group. The simulated odor of burning hair produced the greatest effects on EEG recordings and by self-report. Other studies of PTSD involved positron emission tomography (PET) to measure regional cerebral blood flow (rCBF) in patients with PTSD. One study involved women with histories of childhood sexual abuse (Shin et al., 1999). During PET, script-driven imagery was introduced. A traumatic condition, in comparison to a neutral control condition, reflected increased rCBF in the orbitofrontal cortex and anterior temporal poles for the subjects with PTSD. The comparison group exhibited rCBF increases in the insular cortex and the anterior cingulate gyrus. The PTSD group also exhibited greater rCBF decreases in bilateral anterior frontal regions and singular decreases in the left inferior frontal gyrus. Bremner et al. (1999) examined PET recordings of rCBF with combat veterans exposed to traumatic pictures and sounds. The subjects with PTSD had decreased blood flow to the medial prefrontal cortex, an area postulated to have a role in regulation of affect through the inhibition of amygdala responsiveness. There were also significant differences between subjects with PTSD and controls with rCBF findings in cortical areas involved in memory and visuospatial processing. The significance of this early finding was that the PET recordings reflected specific and consistent differences.

The CNS activity of abused and non-abused children, measured by the impact of acoustic startle tones on EEG-evoked potentials, reflected significant differences between the two groups (McPherson, Newton, Ackerman, Oglesby, & Dykman, 1997). Essentially, the children with PTSD had greater EEG intensity gradients compared with the non-abused subjects. Auditory-evoked EEG potentials were recorded with male Vietnam combat veterans with PTSD (Gillette et al., 1997). Diminished EEG latencies were significantly correlated with the intensity of re-experiencing symptoms, e.g., nightmares

and flashbacks. The authors suggested that the finding was supportive of a “sensory gating effect at the brainstem level,” and that the suppression effect may similarly influence other psychophysiological measures. In a study employing magnetic resonance imaging, Gurvits, Shenton, Hokama, and Ohta (1996) observed that both right and left hippocampi were significantly smaller in subjects with PTSD compared with combat control and normal subjects. There were no significant differences in intracranial cavity, whole brain, ventricles, brain ratio, or amygdala. The two combat groups did evidence increased subarachnoid cerebrospinal fluid. The authors suggested that since hippocampal volume was directly correlated with combat, traumatic stress might cause damage to the hippocampus.

Neuroimaging studies of PTSD emerged over the past two decades mirroring advances in neuroimaging technology. The technology allows graphic exploration of neural changes associated with PTSD experience (Patel, Spreng, Shin, & Girard, 2012). These techniques include functional magnetic resonance imaging, PET, and single-photon emission computed tomography. The thinking is that if neuroimaging can establish determined neural pathways reflecting PTSD pathology, then this may be a step toward being able to distinguish actual PTSD cases from dissimulated PTSD (Garfinkel & Liberzon, 2009; Hayes, Vanelzakker, & Shin, 2012; Koch et al., 2016; Liberzon, 2006; Sartory et al., 2013).

Studies have identified a number of functional and structural neurological pathways associated with PTSD experience. For example, Elzinga and Bremner (2002) reasoned that PTSD may be a memory disorder. They noted that the hippocampus, the amygdala, and the prefrontal cortex were involved in memory functioning and in response to stress. Amygdala activation is normally moderated by the prefrontal cortex. If this action is deficit, exposure to severe stress influences strong emotional response and at the same time difficulty in recalling the circumstances of the original stress. Shin, Rauch, and Pitman (2006) described that across research, there is a general agreement of three essential neural findings regarding PTSD symptom experience. These three findings are: (1) heightened amygdala excitation occurs during PTSD symptom experience, (2) an inverse relationship with PTSD processing and medial prefrontal cortex excitation, and (3) the hippocampus evidences diminished volumes and diminished neuronal integrity during PTSD symptom experience.

Even more to the point, Hopper, Frewen, van der Kolk, and Lanius (2007), in a functional magnetic resonance imaging study, described subjects aware of *re-experiencing* as associated with excitation in the right anterior insular cortex. *Re-experiencing* was also associated negatively with the right rostral anterior cingulate cortex. Subjects experiencing *avoidance* correlated negatively with the right rostral anterior cingulate cortex and subcallosal anterior cingulate activity. *Dissociation* experience correlated positively with excitation in the left medial prefrontal and right superior temporal cortices, and *dissociation* also correlated negatively with the left superior temporal cortex.

Based on the data from these and many other accumulating studies, Akiki, Averill, and Abdallah (2017) proposed an emerging “network-based” model of cortical structures underlying PTSD. The authors begin by noting that traditional models of PTSD neural imaging studies have identified a “fronto-limbic model.” This model identifies the amygdala, the medial prefrontal cortex, and the hippocampus as key neural structures in PTSD experience. Over two decades, this neuroimaging-based model has been consistently corroborated across many studies. Essentially, the model identifies the amygdala as being overactive, causing symptoms of heightened arousal and increased fear. From there, there is a dysfunction of usual inhibition by the medial prefrontal cortex and the hippocampus.

Akiki and his colleagues proposed that rather than focusing on these isolated neural entities, a broader complex of neural networks was involved. This network encompasses multiple, integrated neural networks of structures, all of which have been implicated in PTSD. Akiki, Averill, and Abdallah (2017) proposed an overall network involving three subnetworks: (1) default mode network, (2) the central executive or frontal-parietal control, and (3) the salience network. The specific neural structures involved in each of these networks and interrelated functions are discussed by the authors. The research continues, and as it does, it becomes more complex and more dependent on the development of neuroimaging techniques with increased specificity to map the neural networks of the human nervous system. The direction of this research, however, is clear with respect to our quest regarding detection of falsified behavior.

Summary

Our knowledge of PTSD has improved immensely since historical times and since its formal diagnostic beginnings during the years of World War I. Empirical studies have contributed to a better understanding of the temporal parameters of PTSD syndromes. There also is a better grasp of what types of stressors contribute to the intensity of PTSD, and what factors influence the course of PTSD syndromes. There have been significant advances in understanding the role of secondary gain factors as instigating and sustaining PTSD. There have been impressive findings with both physiological and psychological instruments designed to diagnose and classify subgroups of PTSD. There has been some positive movement regarding the detection of PTSD deception, but for the forensic clinician, further specificity needs to be accomplished. There have been efforts with neuroimaging techniques that appear to hold promise. In this chapter, we have attempted to highlight that PTSD is a diffuse, subtle, and complicated disorder that can clinically manifest itself in a myriad of ways. The very complexity of PTSD makes it a disorder highly susceptible to malingering (Sweet & Sweet, 1999). It is incumbent upon the forensic clinician to screen carefully PTSD cases for falsification. Even more important is couching findings, both positive and negative in carefully crafted reports. For the immediate future, it will be only a few cases in a forensic clinician's career that falsification of PTSD becomes categorically evident due to definitive corroborating findings or due to non-contaminated, non-coerced admission of the perpetrator.

Legal Reference

Pard v. US, 589 F. Supp. 518 (D. Ore., 1984).

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Deception Analysis in Criminal Contexts

IV



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Interviewing and Interrogation 15

Introduction

This chapter addresses forensic assessment of suspects and witnesses through techniques of observation and interviewing. Every mental health trainee's introduction to clinical work involves the clinical interview. In the beginning, the trainee may be exposed to media presentations of interviewing, and then participating as an observer, and ultimately as the interviewing professional. Clinical interviewing begins with an understanding of what constitutes a clinical contract. Next emanate ethical issues of confidentiality, informed consent, clinical competence, and clinical negligence. Forensic work follows a similar path, but additionally incorporates a grasp of the workings of the adversarial process and the issues of detecting malingering and deception.

Academic researchers frequently claim that present methods of interviewing and interrogation yield too many false positives (innocent parties labeled as perpetrators). Traditionally, sources have stressed the importance of corroborating the self-reports of witnesses with reports made by other parties (Horvath, Jayne, & Buckley, 1994; Leach, & Orchowski, 2019; Vrij, Semin, & Bull, 1996; Vrij & Winkle, 1993). Arriving at a clear understanding of events that constitute a forensic matter are important in every circumstance, but considering criminal cases or family court circumstances with the potential consequences are extreme. For the forensic examiner, ultimately, the questions of veracity and deceptive presentation are at issue. An important initial distinction is the difference between the clinical investigative interview and interrogation procedures by police authorities and criminal investigators. Interrogation is an assertive and sometimes aggressive approach and is designed to generate prosecutory evidence to be used in litigation. Extreme examples of interrogation procedures have been portrayed in Hollywood crime and spy movies depicting aggressive questioning and, in some instances, brutal physical torture, as well as other exotic means of extracting desired information from withholding subjects.

Vrij (1993, 1994, 1995) reported studies with police detectives who viewed video fragments of confederates instructed to be truthful or lie in an interview with an actor dressed as a police officer. The detectives indicated their judgments of whether the confederates were lying or not. In one study, the accuracy rate was no better than chance (49%); the author concluded that the detectives used the wrong cues to detect deception (Vrij, 1994).

Recently, in the United States, interrogation efforts with terrorism suspects have led to the justification of so called "enhanced interrogation techniques." These techniques are aggressive and confrontive in nature and designed to elicit "truthfulness" through intimidation and physically aversive methods. Vrij et al. (2017) have contended that such an approach is ineffective. Rather than yielding sought after information, the techniques only engender resistance, inaccurate information, and confound useful cues to detect deception.

The views in this chapter are based on the authors' experiences over the years with court systems, police departments, and other investigative/enforcement agencies. It is important

to note that, in general, *interviewing* refers to clinical interviews and assessment procedures and the term *interrogation* refers to investigation procedures used by police and others. Clinical interviewing is designed to generate clinical findings and hypotheses objectively. Clinical interviewing in forensic matters should be comprehensive, exacting, and rigorous; these objectives, however, are not tantamount to clinicians being exempt from ethical guidelines in delivering clinical services. The content of the earlier [Chapters 3 and 6](#) of this text regarding the topics of involuntary distortion and nonverbal behavior are especially relevant to investigative interviewing.

The wealth of studies reviewed in previous chapters can easily lead to a preoccupation with distortions at the expense of sound clinical diagnosis and assessment. Distortion analysis is an integral aspect of the Forensic Distortion Analysis-5 (FDA-5) model. Also critical is an appreciation for the role of non-deliberate distortion and the basic existential qualities of sincerity and honesty in human nature.

We now make explicit a point that has been covert throughout the preceding chapters. Forensic clinicians of all genres must deal with their own countertransference dynamics regarding forensic matters. This begins with mindful appreciation of one's personal moral framework and one's conception of the psychology of man. In most cases, this will begin with the clinician's personal beliefs and which, for some, may envelop religious convictions. In other instances, belief systems may be atheistic or agnostic. All these countertransference issues will potentially color the clinician's forensic analyses and thereby must be thoroughly understood and integrated into the clinician's clinical style. This concern was, of course, the basis of Freud's contention that all psychoanalysts must undergo personal analysis as part of their training. Such countertransference issues apply to any clinician's repertoire, but are singularly important in forensic work. From the perspective of the judiciary, the forensic clinician is expected to approach forensic matters with neutrality and fairness. Part of the training in law school curriculums is to alert attorneys to deviances from these qualities, and expert witnesses will be pummeled with criticism during testimony and cross-examination for perceived lapses in objectivity. The authors have participated in the training and supervision of student and trainee forensic clinicians in numerous settings. The authors' experience is that clinicians who work from humanistic theoretical frameworks will struggle most with adopting, for lack of a better term, the robotic-like affective manner that is suitable for work in forensic settings. The forensic clinician must be a good listener upon hearing gruesome details of criminal behavior. Another example of this point is clinicians administering psychological instruments designed to empirically ferret out tainted styles of responding or outright malingering. Some of these instruments require the examiner to verbalize inquiries that are patently absurd and, in some instances, ludicrous. It requires a special examiner style to not verbally or nonverbally taint the delivery of such inquiries such that the respondent's grasp or response to the intended inquiry is not compromised. Similarly, during interrogation interviews, the forensic clinician's demeanor must be deliberate and focused on the desired non-affective (i.e., non-prejudiced) interactive manner.

In given training sessions, astute students have questioned how the proposed forensic clinician style differs in sham quality from the practiced manners of the deceitful politician, con men, or military leaders who engage in deceptive delivery. There is no satisfying or simply exculpatory response to this inquiry. From the beginning chapters of this book, we have emphasized that some forms of deceptive behavior, although involving deception, are adaptive as opposed to being primarily self-serving or malevolent in intent. The parent who tries to convince the young child that the ground green pea baby food is good for you, even though the parent struggles to even smell the concoction, let alone taste it. The military

training officer attempts to instruct young recruits of the value of rigorous training to prepare for possible combat. Religion classes attempts to extol the virtues of following the Ten Commandments to young pubescent adolescents. Human life is driven by paradox and contradictions; a reality that touches upon the human conditions described in this book, but the answer to which goes well beyond this book's purpose. The best conclusory comment to this discussion is to remind the forensic clinician to always strive to pursue the aspiratory goals of the established ethical codes we have cited in the body of this book.

The current literature regarding forensic interviewing reflects two areas of interest. The first area involves dealing with the continuing problem of "false confessions." There are a variety of circumstances that generate false confessions including mental illness, naïveté and inventory, and overly aggressive interviewing tactics (Gudjonsson, 1990; Rogers, 1990; Volbert et al., 2019). The second area of interest is investigative interviewing practices with children and adolescents (Fisher et al., 2016; Leach & Orchowski, 2019; Poirier, 1999; Rivard & Compo, 2017; Saywitz & Camparo, 2013).

The ethical principles of informed consent, confidentiality, and beneficence remain primary considerations as in all clinical work. Interviewing is a flexing process of regulating and managing clinical impressions (Schlenker & Weigold, 1992). Interviewing is usually not invasive, intimidating, or aggressive. Interviewing does not assume a bias to deception, nor is it impervious to manipulation or deception. In forensic circumstances, however, interviewing, of necessity, becomes an artful effort of anticipating the likelihood of deception effort by subjects.

In contrast, police investigators are taught to be sensitive to nonverbal behavior, although not always in a reliable or empirically accurate manner (Vrij, Hartwig, & Granhag, 2019). Interviewing and interrogation efforts can take place in combination with other investigative approaches—forensic hypnosis, polygraphy, plethysmography lab results, and criminal profiling. Some of these techniques can be effective with sensitive, intuitive, well-trained investigators. Many of these methods are relatively crude in terms of empirical reliability, and findings from these ancillary approaches must be viewed with caution by clinical interviewers. Presently, there are no standards of certification for the latter individuals. To an extent, this is also a problem with forensic clinicians, although there are formal, forensic board-certification procedures intended to promote excellence in forensic practice for psychiatrists, psychologists, and social workers.

A significant difference between police methods and clinical approaches is the general reluctance for direct reliance on suspect-generated information by police investigators. Indeed, as is repeatedly cautioned throughout this book, reliance on significant-player provided information can be a source of error in psychological findings. To counteract the problem, police investigation relies primarily on crime scene evidence and study of the suspect's *modus operandi*. The thesis here is that both approaches have merit and both have limitations. In relevant circumstances, forensic clinicians will have access to police investigative materials, which should be regarded with appropriate perspective.

Early Forensic Interviewing Efforts

Traditional forensic interviewing approaches utilized protocols based on reaction time measurements and word association findings (Goldstein, 1923; Henke & Eddy, 1909; Leach & Washburn, 1910; Marston, 1920; Yerkes & Berry, 1909). Some of this early work emanated from the efforts of early Jungian psychoanalysts (e.g., Jung and Wertheimer)

utilizing symbolism and word association theory to detect deception. Goldstein (1923) summarized this early research and noted that early efforts involved attempts to identify dynamics of diagnoses of hysteria and neurasthenia. Over time, the general population became less naïve regarding mental health issues, and early researchers recognized that suspect/deceivers would see through simplistic efforts (e.g., questioning dependent on reaction times to words sensitive to elements of a crime scene). These early efforts eventually morphed into contemporary forensic work and detecting deception dynamics.

Corroboration as a Clinical/Forensic Tool

Forensic sources (Hall, 1982; Resnick, 1997; Shapiro, 1999; Verigin et al., 2019) have consistently emphasized the need to corroborate the self-reports of suspects and witnesses with the independent reports of other parties. Depending on the nature of the suspected deception or malingered behavior, collateral data should be gathered from past or current circumstances. For example, if a criminal defendant is suspected to be malingering hallucinations, it would be important to gather information from the defendant's prior history to determine if psychotic experiences were previously documented for the defendant. If the suspected malingering involves the defendant's self-report of circumstances of the instant offense, then gathering accounts of other witness's would be important.

Corroborating data should be discreetly incorporated into the evaluation process, and any limitations in its validity should be candidly acknowledged. Rogers (1990) aptly pointed out that subjective reports of corroborators might also be distorted. Discrepancies between the reports of suspected malingerers and the reports of corroborating others, therefore, are not necessarily indicative of anything, but such findings should be documented and explained. Varying perceptions of involved parties (i.e., suspect, victims, witnesses, and police investigators) are characteristic of criminal matters. Another prime example of such discrepant views by involved parties occurs with disputed custody/visitation matters (Poirier, 1991). Disputed domestic matters in general involve intense, and frequently bitter, negative emotions, such that the credibility of wholesome individuals who are otherwise reliable becomes hopelessly tainted. In these circumstances, forensic formulations can be caught up in a frustrating and fruitless pursuit trying to arrive at meaningful conclusions.

Unfortunately, expert witness reliance on limited or conflicted data is all too commonplace. In critical forensic circumstances, compromised or unreliable data should be acknowledged by the expert witness, always relinquishing the final determination to the judgment of the trier of fact. As we have repeatedly emphasized, expert witnesses and the field of forensics is not yet able to unequivocally decipher malingering or deception in every circumstance. Little is to be gained in the courtroom by the trier of fact relying on an expert's subjective interpretation of the credibility of the parties who have provided their subjective interpretations. Such scenarios have justifiably resulted in the expert witness testimony of mental health professionals being viewed with skepticism by the judiciary and the public.

Interrogation/Investigation Interview Dynamics

There has been an effort by clinical researchers to understand and learn from the dynamics of police investigator interview techniques, which predated interest in clinical forensic interviewing by decades. There has been an interest in developing and refining these

techniques, so they are more useful for the forensic clinician (Dando & Milne, 2018; Dianiska, Swanner, Brimbal, & Meissner, 2019; Gordon & Fleischer, 2019; Kocsis, 2018). Additionally, aspects of interrogation principles can be meaningfully incorporated into clinical interviewing procedures. There are, however, fundamental differences in the ethics and the objectives of criminal investigation and clinical forensic interviewing.

During the 1990s, retraction of incriminating admissions became a concern in criminal investigations. Defense attorneys capitalized on mounting public concern with complaints of police brutality and coercion and argued that initial admissions of guilt or incriminating statements by suspects were the product of police intimidation. Gudjonsson (1990) investigated the psychological characteristics of 100 individuals who retracted self-incriminating admissions during interviews with police investigators. Based on psychometric findings, the retracting subjects were described as having generally lower cognitive ability and higher scores on scales of suggestibility, compliance, and acquiescence compared with controls. In a later study of prison inmates who claimed to have made false confessions during police interviews, the false confessors were reported to have more anti-social features on psychometric testing compared with controls (Sigurdsson & Gudjonsson, 1996). Further, a subgroup of the false confessors had elevated suggestibility and confabulation scores. A parallel study with 108 juvenile offenders found no reports of false confessions.

The objective of undercover officers is to infiltrate groups suspected of criminal activity. To achieve this, undercover agents must engage in purposeful, staged deception. Based on interviews with 18 undercover narcotic agents, Jacobs (1992a) described a deception typology consisting of four primary components:

1. Rehearsal
2. Appearance manipulation
3. Verbal diversion
4. Physical diversion

Jacobs (1997) conducted semi-structured interviews with 24 undercover officers to identify the methods used to introduce themselves into the desired criminal circles. The undercover officers described their use of “contingent ties,” that is, the use of established relationships with informants to then employ role deception (i.e., undercover officers as criminals) to integrate themselves into relationships with criminal elements. Also important was the use of linguistic devices, such as use of street parlance and idioms to curry favor toward the undercover officers. The inference is that undercover agents may be able to ply their understanding of the social psychology of individuals with anti-social dynamics to infiltrate groups involved in criminal activity.

These strategies have been described by undercover narcotics agents involved in covert drug transactions (Jacobs, 1992a). Ethnographic interviews were conducted with 35 undercover narcotic agents who described the concept of “interaction as infiltration.” The agents would utilize role performances based on their knowledge of the target group’s social structure and by use of verbal and nonverbal machinations necessary to achieve sufficient deception for infiltration. The writers suggested that the methods of the undercover officers embody broader sociological relevance than simply police work. As an example, Hessing, Elffers, Robben, and Webley (1993) conducted a study of interviews with individuals claiming unemployment benefits. The fraudulent claimants were less educated, were more socially alienated, were more inclined to take risks, and had more receptive attitudes toward a variety of kinds of fraud.

Sexual offenders faced with sentences that will compromise their freedoms for significant periods are highly motivated to be deceptive during investigations and, for that matter, during clinical assessments, as well. The authors have experienced this to be a problem even with juvenile sexual offenders (Poirier, 1999). The ability of sexual offenders to engage in deception appears, in part, to be related to years of prior awareness of social taboos regarding sexual misconduct. By the time of actual criminal activity, sexual offenders are already well postured to be deceptive. Happel and Auffrey (1995) addressed this problem regarding sexual offenders presenting before clinician-staffed prison review boards. They noted the sexual offenders' "dance of denial," in misrepresenting involvement in a sexual offense(s) when testifying before review boards. The authors proposed that "correctional review boards" comprised of three, or more, persons were more effective than review boards consisting of fewer staff.

Criminal Investigation Approaches

Royal and Schutt (1976) typify a criminal investigative approach through interviewing. Components of this approach are still utilized in current times. The approach is based upon the assumptions that: (1) induced stress in examinees is desirable because rationality decreases as emotions increase; (2) polite, respectful examiner behavior can yield confessions and reduce invalid or illegal findings; and (3) the deceptive suspect will eventually trip himself or herself up. An implicit assumption is that most suspects are dishonest and that virtually all suspects have committed the crime(s) for which they are being interviewed. This method involves detecting lies, discrediting alibis, and "pumping up" the quality of incriminating evidence. Fear of punishment, and of bringing shame upon the family, as well as other coercive techniques are employed to motivate suspects to confess. [Table 15.1](#) summarizes recommended techniques which are intended to be used in conjunction with other forensic methods.

Table 15.1 Guidelines for Interrogating Suspects

Isolate suspect from all intrusions and resources
Keep suspect immobile as much as possible
Establish dependence on the part of the suspect
Examiner is friendly, concerned, and firm
Ask open-ended questions for new information
Proceed from the general to the specific
Precise questions are asked for concrete data
Occasionally ask questions randomly to upset faking patterns
Summarize statement in sequence of events
Suspect verifies each part of summarized sequence material
Suggest excuses to crime to suspect before suspect spontaneously mentions them
Project indifference to criminal behavior of suspect ("Everybody does it")
Induce stress when appropriate (e.g., initially)
Provide relief after an admission, then induce stress again, and repeat the cycle
Continue until a confession is obtained

Source: Adapted from Royal, R.F., & Schutt, S.R. (1976). *The Gentle Art of Interviewing and Interrogation: A Professional Manual and Guide*, Prentice-Hall, Englewood Cliffs, NJ, 1976.

Table 15.2 Differentiating Truthful from Deceptive Suspects (Reid System)

Truthful	Deceptive
Eye contact direct and continuous	Eye contact erratic and indirect when threatened
Facial expressions vary from anger to surprise	Facial expressions vary from fear to passive/blank
Increased anger with continual accusations	Difficult to rouse to anger
More likely facial flushing	More likely blanching
Minimal body movements	More frequent and extreme body movements
Leans toward interrogator	Turns away from interrogator
Less use of barriers	More use of barriers (e.g., arms crossing chest)
Infrequent self-grooming responses	Frequent self-grooming responses
Responds without delay unless question requires thought	Evasive or non-responsive
More information about case reduces arousal	No change or increased tension with more case information
Cooperates with investigation	Non-cooperation comes in various forms
Prompt, with no hesitancy in delaying termination	Arrives late and desires to leave early
Task oriented and interested in unresolved issues	More likely presents physical problems, complaints, crying, etc.
Task oriented	Emphasizes truthfulness
Some memory loss expected	Selective memory loss or too good recall
Direct	Excessive use of qualifiers
Smooth execution of words and sentences	More likely “tongue-tied” or otherwise disorganized answer
Easy to spot	Harder to determine
Denials become stronger as interrogation continues	Denials weaken as interrogation continues

A structured approach to interviewing was proposed by Reid and Associates in books, articles, and (1986). Many investigative agencies endorse these methods in their fieldwork. Guidelines to truthful vs. deceptive suspects are presented in [Table 15.2](#), followed by a sequential process recommended by Reid (1986) and associates (Frumkin, n. d.).

Counterdeception and manipulation techniques are utilized by interrogators. Ploys of personalizing the suspect and minimization of wrongdoing are characteristic. Another deceptive strategy is exploiting the gap of time between signing a waiver of rights and the interrogation. The “Mutt and Jeff” technique is a classic police interrogative technique. Here, the more cynical, aggressive, and usually older officer feigns anger at the suspect, while the more liberal, sympathetic, and usually younger or female officer attempts to wheedle a confession out of the suspect. Reid and Associates (1988) object to this method, not on moral grounds, but because suspects recognize the methods and the confession may be rendered inadmissible in court. Other methods of manipulation presented by Reid and Associates (1988) include: (1) discussing the suspect in the third person, “roping” him or her into the content in order to set up alternatives; (2) repeatedly breaking the body boundary space to induce threat and then relief; and (3) presenting to the suspect aspects of the victim that can be blamed for the crime. Interrogators often can present as counterfeit mental health clinicians diagnosing the suspect, but having no skill (or interest) in intervening if the person becomes destabilized. Suspects remain a part of the community until they are convicted, and they are entitled to fair treatment.

Clinical Forensic Interviewing Guidelines

The foregoing is an illustration of commonly used interrogation procedures by investigative operatives and, of course, not generally recommended techniques for the clinician. One of the main purposes of the forensic interview is to establish the essential reliability of the interviewee. The issue of reliability has direct implications for personality attributes of truthfulness, distortion, hesitancy, and potential for outright deception. These issues all have a direct bearing on the substance of forensic concerns.

The forensic evaluator must accept the reality that, in most cases, suspect truthfulness will rarely be determined with precision (Hudson, Vrij, Akehurst, & Hope, 2019; Vrij, Hartwig & Granhag, 2019; Willmott & Evershed, 2018)). Unlike a laboratory blood test, forensic interviewing will not yield a definitive finding comparable to a laboratory determination of, for example, whether a patient is anemic or has a cancerous tumor. There are overview determinations that offer some guidance as to what expectations are likely within an interview effort. Researchers have demonstrated that during interviewing, truthful statements will have more elaboration and detail compared to deceitful information (Deeb et al., 2018; Verigin et al., 2019). Following initial statements during interviewing, subsequent comments and elaboration are toned with respect to the fertility of detail based on the degree to which the interviewee is attempting to be deceptive. The forensic interviewer, however, must engage the degree of detail coupled with the degree of truthfulness versus untruthfulness. This variable and fluctuating assessment process effort represents the essence of forensic interviewing.

Preparation

The most important part of forensic interviewing takes place well before actually sitting down with interviewee(s). We emphasize at this point that the time to begin preparing to function in the role of an “expert witness” is at the front end of any forensic matter. Beginning with the initial referral, which in most cases will be a telephone inquiry, the examiner should open a case file and begin taking notes. Every contact, every inquiry should be documented. Likewise, from that point on, every involvement, every determination, and every related activity of the examiner should have documentation in some form. The prudent forensic examiner never loses sight of the adage, “... In the courtroom, if it’s not documented, it didn’t happen.” While the adage may be a bit of an overstatement, when one is sitting as an expert witness, and offering testimony, the lack of documentation can be viewed as a fatal error.

A first preparatory determination is clearly defining the source of the interview referral. Is the source the interviewee, the court, an attorney, or other referral source? This determination affirms the obligation of the examiner to each of the involved parties. Determining the source of the evaluation request also serves to determine who will receive a final report, and importantly, who will be responsible for the expert’s professional fees. Likewise, the source will be responsible for making arrangements regarding the provision of all referral materials and pertinent, prior records to the examiner. Another preparatory determination should be precise clarification of the referral question. Once the foregoing preparatory arrangements are in place, and the examiner has all the materials, preparation of the actual interview can proceed.

An issue that is continuing to become increasingly prevalent is the forensic examiner being called upon to evaluate suspects or witnesses who are non-English speaking or

who come from different cultural backgrounds. These can be exceptionally difficult assessments, and the authors' experience is that, whenever possible, it is best not to use interpreters for the language issue, particularly in criminal matters.

A common example of the differing cultural situation occurs in family court and juvenile court matters (Barber Rioja & Rosenfeld, 2018; Fisher et al., 2016). The authors have creatively utilized collateral professionals with specific experience in the cultural circumstance in question to be present during individual and family-based interviews. With proper planning, the collateral professionals can be of assistance in guiding a meaningful interview process. But again, this would be a backup measure. The optimal alternative is always for such evaluations to be referred to professionals well-versed in the language or culture in question. In some circumstances, however (e.g., a rural or isolated setting), this is not always feasible or possible.

Organizing

The clinician should review all the referral materials and formulate the interview framework. The next step is planning for the actual interview and making necessary arrangements. This becomes especially important if the interview is to be conducted outside of the examiner's private office. For example, interviews at correctional facilities are always problematic and require preplanning. In situations where audio or video recordings are to be made, suitable arrangements must be set in place before hand. If the examiner anticipates the use of screening inventories or other forms of psychometrics, suitable arrangements must be set in place. This can be troublesome with the administration of neuropsychological batteries.

Interviewing

By the time of the formal interview, the examiner should have a firm plan set in place. The process should begin by whatever particular style the interviewer utilizes to establish rapport. Maintaining rapport is a highly complex and individualized process, and as the interview dynamic progresses, the examiner may need to modify or shift their usual manner. The purpose and nature of the interview should be carefully outlined for the interviewee, as well as information regarding what will happen with the findings and any written documentation of the interview. The examiner must be very clear about these issues beforehand to particularly include ethical concerns, such as confidentiality, interviewee rights, and the role of the examiner in the forensic process. The role of the examiner issue will often need clarification and emphasis to ensure that the interviewee does not construe the examiner as their therapist or clinical advocate. The desired outcome of the interview objectives will have already been established prior to the interview itself, and those objectives remain the examiner's quest. When interviewing children and adolescents, a host of additional considerations are involved, and once again, it is the examiner's responsibility to be aware of and to adhere to these issues (Blasbalg, Hershkowitz, & Karni-Visel, 2018; Brown, Lewis, Lamb, Gwynne, Kitto, & Stairmand, 2019).

Closure

The interview should conclude with a summary statement of the interview objectives so that the interviewee feels some measure of closure and, ideally, accomplishment. In most

instances, this will involve a reassurance that the next step will be forwarding a written report to the bench, with copies being distributed to the involved attorneys. The end of a forensic interview should always include a statement that following the interview, it would be inappropriate for the interviewee(s) to make any effort to contact the examiner. The interest is to avoid any perception of bias or prejudice of collection of data outside of the formal evaluation. Any issues or concerns of the interviewee should be addressed with their attorney of record. In circumstances where the request for an evaluation was by retainer agreement of the interviewee and their attorney, the written report will be forwarded to the requesting attorney, who will then decide, in consultation with the interviewee, what then happens to the report and its findings.

Written Clinical Forensic Report

A necessary and appropriate safeguard regarding the forensic clinician's access to, and review of, prior records is to include a disclaimer statement at the top of all forensic reports just prior to the listing of prior records accessed and reviewed to the effect:

The expert witness findings and opinions expressed in this report are based in part on the prior records listed below. Also listed are prior records that were requested, but not made available at the time of completing the report. In the event any new relevant materials are accessed, we will addend this report with that information and possibly modify or change the clinical opinions expressed in this report.

Follow-up

Once the forensic examiner completes an evaluation effort including all necessary interviews, the matter will continue within the judicial process. The forensic examiner needs to fully understand the stages and nature of the judicial process in order to function capably and with reasonable comfort. This may involve the examiner being identified as an expert witness and being called to testify in depositions (formal proceedings outside of court; a tool that permits discovery of expert witness findings and testimony prior to trial or formal court proceedings) (Table 15.3).

The reader should access other specific chapters in this book for further guidance in addressing individual forensic applications, all the while being attuned to potential deception including malingered behavior. Psychometrics and structured interview protocols are available with specific forensic issues, but our interest in this chapter has been to provide an overall backdrop for the interview process. The most suitable role for the forensic examiner from beginning to end is to function as an unbiased teacher. The unbiased teacher role involves the fundamental belief that the forensic evaluator has something to offer the court from a behavioral science perspective. The role of being an objective educator helps in coping with the efforts of cross-examining attorneys to posture the expert as being prejudiced or inept. The overall framework of any forensic matter is the adversarial system. When the forensic examiner maintains the role of being a teacher, this helps in coping with the belittling, attacking posture that attorneys learn in law school to cope with the challenge of an expert witness.

The authors are frequently questioned by fellow, non-forensic, mental health professionals, "... what is it that you do, that I can't do?" This is yet another formidable inquiry

Table 15.3 Lists Guidelines for the Expert Witness

Expert Witness Guidelines	
1.	Obtain the proper education and training in forensic practice
2.	Achieve proficiency in your area(s) of expertise and maintain that proficiency by continuing education and training
3.	Be very clear as to your areas of limitation and do not practice beyond them
4.	Be familiar with legal concepts and the specific statutory provisions relevant to your area of expertise and the jurisdiction in which you will testify
5.	Be aware of practice guidelines and ethical codes pertinent to your discipline
6.	Familiarize yourself with the courtroom and courtroom protocol
7.	Maintain objectivity with the referring attorney
8.	Be diligent in requesting and accessing all pertinent background information
9.	Reserve your opinion until the assessment is completed
10.	Obtain a waiver or written fee agreement, never work on a contingency basis
11.	Have an up-to-date and accurate curriculum vitae (CV) highlighting relevant forensic background
12.	Instruct the examinee regarding the purpose and scope of the assessment and the limits of confidentiality
13.	Complete a thorough and well-documented evaluation
14.	Know precisely the logical chain from amassing the data to generating the conclusions
15.	Consider the potential of faking and malingering and account for discrepancies and distortions
16.	Before trial, prepare attorney
17.	When going to court, wear dark, conservative, semi-formal clothing with muted accessories
18.	Allow yourself to relax before court appearance
19.	Listen carefully to each question and strive to look at the trier of fact when making your responses
20.	Explain your conclusions and your rationale in everyday language
21.	Refrain from responding to inquiries regarding ultimate legal questions
22.	Understand the meaning of “reasonable [insert discipline] certainty” in your jurisdiction
23.	During cross-examination listen carefully to each question and direct your response to the trier of fact
24.	During cross-examination, if the attorney demands a “yes” or “no” response, it is appropriate to respond you cannot adequately answer the question in that format
25.	Don’t succumb to baiting efforts to argue with the attorney during cross-examination
26.	Acknowledge opposing clinical findings and research data if presented and reaffirm your confidence in your findings

Source: Adapted from Tsushima, W. T., and Anderson, R. M. *Mastering Expert Testimony: A Courtroom Handbook for Mental Health Professionals*. Lawrence Erlbaum Associates, Mahwah, 1996.

for the forensic clinician. The answer, very simply, is that forensic clinicians are trained to be knowledgeable about functioning within the adversarial process. The legal arena which encompasses the adversarial process is not a forum that most mental health professional are trained to function within. The courtroom is a very different setting with entirely different rules compared to the private office, the classroom, the clinic, or the hospital. The role of being an objective educator helps in coping with the efforts of cross-examining attorneys to negatively posture the expert as being prejudiced. We note finally that all judges are attorneys at heart, whether or not they were in fact.

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Adjudicative Competency and Deception

16

Introduction

Commentators on adjudicative competence have traced early derivatives of the concept in Western law to the fourteenth century (Dawes, Palmer, & Jeste, 2008; Roesch & Golding, 1980). At that time, competency was an extension of the general jurisprudence rule that no one should be tried for a crime in their absence. More formal Anglo-American legal doctrine concerning competence to stand trial dates back at least to the mid-seventeenth century in England (Mossman et al., 2007). English common law encompassed elements of today's legal definitions of competency including mental health issues. Competency to stand trial is a foundational forensic concept that is relevant to both criminal and civil matters. If a defendant must be physically present to defend against criminal charges, that defendant must also be "mentally present." Disorders that interfere with the capable participation of a defendant at trial render that defendant incompetent to stand trial and require that legal proceedings be postponed until effective participation can be assured. A defendant's mental status is usually the key component to a competency evaluation. In instances of chronic mental illness, a defendant may evidence mental health symptoms, before, during, and after an offense has occurred. An important judicial point, however, is to understand that judicial competency, in a criminal matter, relates to a defendant's status *after* an offense has been committed and relates directly to the defendant's abilities to proceed through various aspects of the trial process and participate competently. Competence is an irrefutable right of a defendant involved in a legal proceeding. Defendants involved in legal matters experience considerable duress regarding their legal predicament. This circumstance creates a strong inclination to distort or falsify testimony regardless of complicity (Saberri, Karmi, Sheikhzadi, Ghorbani, Meysami, Nasrabadi, & Marashi, 2011).

Earlier reviews of the forensic literature addressing the issue of adjudicative competency can be found in Blau (1984); Curran, McGarry, and Shah (1986); Drogan (2011); Ewing (1985); Gutheil and Appelbaum (1982); Lipsitt, Leios, and McGarry (1971); McGarry, (1973); Mumley, Tillbrook, and Grisso (2003); Perlin, Champine, and Dlugacz (2013); Poythress, Bonnie, Monahan, Otto, and Hoge, (2002); Roesch (2018); Roesch and Golding (1980); Weiner and Hess (1987); Zapf and Roesch (2008); and Ziskin and Faust (1988). More contemporary reviews are found in Fogel, Schiffman, Mumley, Tillbrook, and Grisso (2013); Melton (2017); Mossman et al. (2007); Stafford and Sellbom (2013); and Zapf and Beltrani (2019).

The essentials of a definition of legal competency were outlined in 1960 by the United States (U.S.) Supreme Court in *Dusky v. United States* (1960). Dusky requires that defendants have the ability to: (1) understand rationally and factually the legal proceedings and (2) cooperate with their attorney in their defense. A disorder that interferes with either of these capacities is sufficient to render a defendant incompetent to stand trial. However, incompetence to

stand trial is not to be equated with the mere presence of mental illness (Feuger, 1961), a diagnosis of amnesia (*U.S. v. Adams*, 1969) (see [Chapter 18](#), Faked Amnesia), or if there is need for treatment (*U.S. v. Wilson*, 1966). As outlined in *Dusky*, the claimed disorder must be of the severity that impairs functional capacity to understand the legal proceeding and to assist defense counsel. Today, all legal jurisdictions within the United States utilize codified variations of *Dusky*.

In a landmark case in 1998, the Fifth Circuit, United States Court of Appeals, ruled that there was no constitutional protection to a court considering malingering behavior deemed to obstruct proceedings in arriving at sentencing disposition. As reviewed by Gottfried, Schenk and Vitacco (2016), the ruling continues to impact on relevant cases. The ruling was recently applied in *United States v. Harris* 2015 and *United States v. Sanders* 2016. The ruling has also been applied in cases where defendants feigning has been determined to result in the delay of trial (*U.S. v. Diaz-Gaudaram*, 2010; *U.S. v. Ewing*, 1997). Part of the court's rationale in these case considerations was that the defendant's malingering behavior was not a positive commentary on their level of remorse.

Pirelli, Gottdiener, and Zapf (2011) addressed the issue of the financial costs of court-awarded competency assessments. Other than recognition of the considerable expense involved, data collection regarding these competency assessments is difficult because of significant differences in procedures across jurisdictions. Defendants with psychiatric issues have been a long-standing problem area for penal facilities. The daily costs of penal facility care have increased dramatically over the years, and those costs are compounded further by defendants with psychiatric issues. Orders for competency evaluations only increase time of incarceration and of course there are the expenses of the competency evaluations by experts. Multiple areas of consideration are involved beginning with cost to taxpayers, the potential of the defendant's legal rights being compromised, and finally the need for expeditious processing of legal cases.

Estimates of the frequency of faked incompetence vary. Cornell and Hawk (1989) reported that 8% of 314 consecutive admissions to the Michigan Center for Forensic Psychiatry for pretrial evaluation were diagnosed by staff as malingering. These results suggest that malingering among criminal defendants may occur considerably less often than suggested by popular stereotypes. One estimate is that courts in the United States initiate approximately 60,000 orders on an annual basis for assessment of competency to stand trial (Bonnie & Grisso, 2000; Soliman & Resnick, 2010). Another estimate has 2%–8% of all felony defendants being referred for competency evaluation (Dawes et al., 2008). Of the latter group, approximately 10%–30% are estimated to ultimately be deemed not competent to stand trial (Dawes et al., 2008; Roesch, Zapf, Golding, & Skeem, 1999).

Judicial Applications of Competency

The array of possible scenarios in competency assessments extends beyond the usual request regarding competency to stand trial. As an initial example, we consider an offense involving a defendant's ingestion of an intoxicant prior to the offense having occurred. Subsequently, the defendant undergoes detoxification while incarcerated. During subsequent evaluation, the defendant may acknowledge having been intoxicated at the time of the offense, and the defendant may suggest lack of culpability because of the intoxicated state. Assuming the original intoxicated state was voluntary, the proposal of not being

guilty by virtue of intoxication would be a specious legal argument. The legal argument is that following voluntary intoxication, the offender is responsible for any subsequent behavior, whether there was intent for wrongdoing or not. This circumstance is often applicable to “driving while intoxicated” matters.

Still, another scenario could be a defendant attempting to malingering continuing, or residual, symptoms of intoxication during a subsequent competency assessment. From the legal perspective, the question of competency is straightforward. Either the defendant is, or is not, competent to stand trial. As we continue to explore different scenarios, it will become apparent that there are instances where the complexity of a competency assessment can be challenging (Velsor & Rogers, 2019).

Some forms of mental illness can be reasonably stable over time, but in other situations the severity of the illness is not predictable from one moment to the next. The intensity of mental health symptoms can vary depending on the efficacy of medication schedules, adherence to medication schedules, degree of stress, seasonal influences, and a host of daily experiences. Similarly, the issue of a defendant’s competency may have variability. In some cases, the expert’s contribution may be to educate the judiciary as to stability variance with the mentally ill. Related issues to competency status may include age, developmental status, ethnic and cultural variables, and lifestyle (e.g., lesbian, gay, bisexual, and transgender [LGBT].) considerations (Anderson & Hewitt, 2002).

In addition to the most usual issue of competency to stand trial, there are other legal applications of competency earmarked by the different stages of the judicial process.

The various judicial applications of competency in criminal matters have been reviewed by Kagehiro and Läufer (1992) and are summarized in [Table 16.1](#).

Death penalty cases are referred to as “capital punishment cases.” Because of the usual complexity of most capital matters, mental health expert testimony can be an aspect of such cases. Expert testimony can be called upon in capital matters at one or more of the scenarios in [Table 16.1](#). A summary review of expert witness involvement in capital cases in the 2017 United States Supreme Court term was provided by Smith (2018). In *Ayestas v. Davis* (2018), the Supreme Court of the United States ruled that a lower court had committed an error in denying funds for expert witness assistance to address the issue of the defendant Ayestes being competent to be executed.

Competence to be executed was also an aspect of the Supreme Court of the United States matter, *Dunn v. Madison* (2018). Defendant Dunn was presently on death row after being convicted in a murder matter. Two expert witness psychologists, one retained by

Table 16.1 Applications of Competency in the Legal Process

1. Competency to confess and waive Miranda rights
2. Competency to plead guilty
3. Competency to stand trial
4. Competency to waive counsel
5. Competency to refuse an insanity defense
6. Competency to be sentenced
7. Competency to executed

Source: Brodsky, S. L., et al., *Forensic Psychol. Practice*, 5, 65–74. 2005; Kagehiro, D. K., and Läufer, W. S., *Handbook of Psychology and Law*, Springer-Verlag, New York, 1992.

the state, and the other retained by the defense, offered testimony that while incarcerated on death row, Mr. Dunn had suffered debilitating strokes. The experts opined that while Mr. Dunn understood the nature of the proceedings, that there was doubt that he could remember the circumstances of the actual commission of the crime. Of note, was the fact that Mr. Dunn had now been on death row for some 30 years. Smith summarized that the circumstances posed two questions to the court. First, could the state execute a defendant whose intervening mental deterioration prevents recollection of committing the original offense? Second, did the prohibition against “cruel and unusual punishment” by virtue of the prolonged incarceration coupled with the intervening development of impaired competency preclude execution? As the case continued in litigation, it became *Madison v. Alabama* and was again addressed by the Supreme Court in February 2019. At that point the Supreme Court remanded the matter back to the Alabama court. The Supreme Court cited prior case law and ruled that the Eighth Amendment (i.e., prohibition against cruel and unusual punishment by states) permits executing a prisoner even if the defendant cannot remember committing the original crime. The court added that execution may be prohibited if the prisoner suffered from dementia or another disorder. The issues will likely be subject to further court review; our interest has been to highlight the role of the expert witnesses regarding the competency issues.

Our focus in this chapter is on competency in criminal matters, but there are other judicial and non-judicial situations where the issue of competency can be a concern to clinicians and researchers (Ostermeyer, Anacker, Perdue, Saxton, & Noffsinger, 2018). One such situation regards the civil matter of competency to manage one’s affairs. This circumstance may involve adults whose cognitive abilities are compromised because of dementia, injury, stroke, and weather conditions affecting cognitive ability. Another example would be the competency of mentally disturbed patients who are asked to complete forms regarding consent to treatment. This consent, for example, could be for psychotropic medication or electroshock therapy. A final example could be research situations involving human subjects where there may be a question about the participant’s ability to comprehend the purpose of participation and render an informed consent. Appelbaum et al. (1999) and Redding (1997) addressed the circumstance of the competency status of depressed patients to consent to research.

Grisso (2003, 2014, 2018) has reviewed the issues involved in the competency of juveniles to stand trial. The legally assumed age of children developmentally reaching a cognitive level where competency can be assumed remains variable across jurisdictions (Stepanyan, Sidu, & Bath, 2016). Developmental psychologists describe children as achieving the age of reason and responsibility at some point during the 5-to-7-year span (Sameroff & Haith, 1996). Developmental criteria, however, do not necessarily mesh with legal criteria (see [Chapter 8](#), Deception in Children). Grisso, Miller, and Sales (1987); Mahoney and Morris (2010); Tomei and Panza (2013) proposed that competency of juveniles should be routinely questioned when any of the following conditions were encountered:

1. Age of 12 years or younger
2. Prior diagnosis/treatment for a mental illness or mental retardation
3. Borderline level of intellectual functioning or history of learning disability
4. Observations of others at pretrial proceedings suggest additionally, deficits of memory, attention, or interpretation of reality

Many jurisdictions unpretentiously apply their version of the Dusky standard in juvenile court proceedings. Many jurisdictions will assume, by precedent or statutory provision, competence between 10 and 12 years old, but the topic of children's competence remains an area of question (Bradley & Kerr, 2005; Grisso, 2014; Redlich, Silverman, & Steiner, 2003; Viljoen & Roesch, 2005; Viljoen, Vincent, & Roesch, 2006; Zapf & Roesch, 2011). A recently emerging area of adjudicative competency is interest in the issue of "Competency Restoration" (Colwell & Ganesini, 2011). We anticipate that this topic will continue to generate considerable further debate and research (Wall & Christopher, 2012; Wall, Krupp, & Guilmett, 2003).

In actual life situations, all participants in the criminal process, beginning with the first responders and/or investigating/arresting police officers to a crime scene, are often able to identify defendants who may not meet the requirements of competency (Deeb, Vrij, Hope, Mann, Granhag, & Strömwall, 2018). In situations where the defendants may be acutely intoxicated, appropriate interventions are necessary. Overtly psychotic, demented, and seriously cognitively impaired persons are also usually recognized by arresting officers, jail personnel, or defense attorneys. Most jurisdictions have arranged protocols for the transfer of potentially incompetent defendants to early intervention or psychiatric treatment facilities prior to any court proceedings. Defendants charged with particularly notorious crimes and defendants who apparently decompensate while awaiting trial may require professional assessment prior to any formal criminal proceedings taking place. The first court professional to be involved with a defendant is usually the defense attorney. The defense attorney has the professional and legal obligation to raise the question of competency in applicable cases. Case law implicates, however, that the question must be raised, even by the prosecution or the court itself, whenever a "bona fide doubt" exists regarding the defendant's competency (see *Drope v. Missouri*, 1975; *Pate v. Robinson*, 1966). As we have noted earlier, the question of a defendant's competence to proceed may be raised any time from the point of being charged with an offense and forward to final legal disposition. The provisions of the Sixth Amendment, i.e., guarantees the right to a trial by jury in criminal cases, however, as determined in *Morris v. Slappy* (1982), these provisions do not guarantee a "meaningful relationship" between an accused and his counsel.

The Constitution does require that the state provide access to a psychiatric evaluation if the sanity of the accused is likely to be a significant factor at the time of trial (*Ake v. Oklahoma*, 1984). The due process clause of the Constitution permits the state to require that a defendant claiming incompetence bear the burden of proving incompetency by a preponderance of the evidence (*Medina v. California*, 1989). Defense attorneys sometimes raise questions of competence to stand trial in order to secure a court-ordered, professional evaluation of the defendant, which would otherwise be unavailable. These evaluations may produce evidence relevant to the question of competency or, in some instances, questions regarding an insanity plea, plea of diminished capacity (the latter, may not be not legally applicable in all jurisdictions), or to mitigating factors, which may be considered at the time of sentencing.

Competency and Judicial Outcomes

The majority of court-ordered referrals for evaluation of competence to stand trial results in defendants being deemed competent. Upon entering the evaluation, defendants usually acknowledge awareness that the evaluation was requested by the attorney. Many cooperate with interviewing, assessment tasks, and present no claims of mental disorder.

Table 16.2 Possible Outcome Scenarios of Competency to Proceed Assessments

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1. A genuine mental disorder causes a defendant to be incapacitated
 2. A genuine mental disorder is observed but does not cause a defendant to be incapacitated
 3. No evident mental disorder. No issue as to competency. Referral often based on pretrial observation of acute intoxication. Defendant could also be pretrial malingering, but now, for whatever reason, malingering perceived by defendant as unnecessary
 4. Malingering
 5. Impaired, but competent
 6. Psychosis present and tangentially related to offense. For example, defendant suffers from a documented, long-standing depressive disorder and current offense circumstances have exacerbated symptoms
 7. Mental illness and malingering
 8. Mental illness, not capable of standing trial, but symptoms not sufficiently severe to warrant a finding of incompetence (i.e., evidences a mental health diagnosis, but symptoms do not sufficiently impair ability to understand the legal proceedings, or cause inability to adequately assist defense counsel). An example would be a defendant depressed over involvement in a crime, but not motivated to properly assist in his own defense
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Source: Drob, S. et al., H., *Bull. Am. Acad. Psychiat. Law*, 15, 85–94, 1987.

The Dusky standard regarding the question of competence to stand trial involves three separate questions:

1. Does the defendant have a genuine mental disorder sufficiently severe to justify a finding of incompetence (diagnosis)?
2. Is the defendant unable
 - a. To understand rationally and factually the legal proceedings?
 - b. To assist counsel in defense (incapacity)?
3. Is this incapacity caused by a mental disorder (causation)?

Drob, Berger, and Weinstein (1987) described that the competency findings according to the Dusky definitions lead to eight possible clinical outcome scenarios. These outcomes scenarios are instructive in assisting the forensic evaluator. [Table 16.2](#) summarizes these eight outcome scenarios.

The first four scenarios are relatively straightforward for clinicians to assess and formulate opinions. Scenarios 5, 6, 7, and 8 are more complex and will often require qualified opinions. The last four scenarios in their complexity are also subject to different professional opinions and, accordingly, there will be circumstances of opposing expert opinions (Cox & Zapf, 2004).

If a defendant is in a secure psychiatric facility, and the clinical history raises concerns about safety for the patient, or for the public, clinical indecision regarding release can result in the delay of release until concerns about the patient status are resolved. In forensic circumstances, however, such a scenario must also take into consideration the needs of the court (e.g., defendant's constitutional rights to a speedy trial). In some instances, clinicians are pressed by less than clinically aware judges, attorneys, or opposing expert witness opinions. The latter outcome scenarios are good examples of clinical cases wherein assessment involvement by collateral clinicians is highly preferred. Such practice would ideally occur in forensic facilities with multidisciplinary support staff and sufficient structure to address the needs of defendants who may be impaired/dangerous (Rosenthal, Gravrand, & Lisi, 2019).

Targets of Deception

At this point, the reader will likely concur with our contention that defendants involved in any form of adjudication are subject to prevarication regarding their circumstances and legal status. Generally, such an effort will be motivated by a need to obtain a better judicial outcome, but also to minimize being viewed in a less than stellar light by significant others and in their community. Two types of faking may take place (Gothard, Viglione, Meloy, & Sherman, 1995; Grisso, 1988): (1) those behaviors directed toward mental conditions and (2) those aimed at specific competency abilities. The targeting of mental conditions is illustrated in the following case examples:

Defendant Smith: A 28-year-old Caucasian male charged with several counts of bank robbery, presented with apparent florid psychotic symptoms upon evaluation. There was no history of mental problems, but a confirmed history of prior arrests, including several for bank robbery. Validity scales on the Minnesota Multiphasic Inventory (MMPI) and behavioral observations indicated a pronounced tendency to fake bad. During the evaluation, he appeared genuinely ignorant of the competency criteria despite his clear understanding otherwise of legal proceedings and defense strategies. The accused contended that his alleged psychotic condition would render him incompetent to proceed. Subsequently, and based on expert testimony, the court found Mr. Smith to be competent to stand trial.

Contrast this with the following case:

Defendant Ms. Violet: A 47-year-old woman charged with the fatal shooting of her husband during a quarrel, exhibited a logical and coherent stream of thought during an evaluation. She went over the instant offense in detail. No mental conditions were proffered except for a stress reaction due to the legal proceedings. Her attorney suggested to the court that her recollections of the instant offense were vague and consisted only of her feelings at the time. Ms. Violet was found competent to proceed with the trial. Eventually, she successfully plea-bargained to manslaughter.

...and with this case:

Defendant Samuel: A 62-year-old man is in his 34th year on death row in a local state court system. In his late 20's, the defendant was serving on active duty with the U.S. Navy. On a weekend night, the defendant and several barrack buddies went to a nearby harbor town that catered to the nearby stationed military enlisted service men. Admittedly heavily intoxicated, the next morning the defendant was awakened by military police in his motel room. Beside him in the bed was the body of a deceased young woman. During a subsequent trial, there was compelling testimony that the victim was known to engage in prostitution, her death was caused by a knife slashing her throat.

The knife was identified as belonging to the defendant, and his fingerprints were found on the weapon. The defendant remembered being with the victim and becoming enraged when she demanded money as payment for the encounter. Beyond that, the defendant claimed that he had no recollection. Laboratory findings confirmed that the defendant's blood alcohol level had exceeded the legal limit, times 5. The defendant was convicted with a penalty of years that would likely extend beyond his natural death. Over the years of imprisonment, the defendant became progressively debilitated from a genetic-based neurological disorder. Presently, medical consultants had determined that the defendant was in the final stages of his fatal illness. Medical estimates of death varied from 6 to 18 months.

The defendant's family, particularly a younger sister, had maintained contact and had recently retained an attorney to pursue reconsideration of the defendant's sentence that would

possibly permit him release from incarceration. The family had proposed a plan of care. The matter had now come before the court, which had initiated an order for a forensic mental health assessment to assist the court in its deliberations. The court order asked for clarification as to the defendant's ability to grasp the legal gravity of his predicament and to be able to properly assist his attorney in the deliberations. The defendant was brought to the examiner's office handcuffed and in a wheelchair. He was accompanied by three deputies. In appearance, and in manner of interaction, the defendant was clearly frail. He was generally aware of his circumstances. He acknowledged struggling with occasional bouts of depression, but he was now encouraged with the possibility of returning to the care of his family.

Our basic feedback to the court was that from the mental health perspective, the defendant presently posed little risk with respect to any further acting out. We noted that there were current, accompanying medical reports expressing comparable findings in terms of the defendant's physical health status. We emphasized the continuing precaution of abstinence from alcohol. From the psychological health perspective, we essentially recommended favorable consideration of the request that have been submitted on the defendant's behalf. We later learned from the defendant's attorney that the defendant was granted a special disposition returning him to his family's care. Months later the attorney called and indicated that the defendant had expired, but that he enjoyed several months of comfort and support with his family.

Response Styles

Honesty

Honest responding is generally the norm among defendants referred for the evaluation of their competence to stand trial, although the question of coloring or tainting their presentation is always a consideration. The majority of defendants, even those with extensive criminal backgrounds, are essentially cooperative with the evaluation process. Many defendants voice awareness that mental health concerns can significantly prolong the legal process, and more importantly, can result in removal from the community (i.e., loss of freedom) for lengthy periods and, in some instances, longer than what would be typical for incarceration for given offenses. If deemed not competent, referral to a mental health evaluation/treatment facility could result in lengthy periods of confinement. The prudent forensic examiner will always assume that defendants have been coached by their attorneys as to what the evaluation entails. In some instances, it is apparent that attorney coaching has gone beyond being merely educational and advisory.

Many honest responders, especially those new to the criminal system, evidence signs of anxiety and depression. These symptoms are rarely so incapacitating that the defendant is found incompetent to stand trial on that basis alone. In addition, many criminal defendants—even those with prior experience in the courts—are surprisingly ignorant of legal procedures and options (Grisso, 1988). This ignorance is not grounds for a finding of incompetence unless there is also the incapacity to understand the proceedings, assuming proper explanation by the defense attorney.

Faking Good

This style is seen when the defendant desires to go forward with the proceedings, but believes a mental deficit or condition may thwart that goal. Another circumstance could

be defendants with paranoid conditions who are suspicious of the criminal proceedings and of their defense counsel. Another example could be defendants who are unaware of their mental health deficits and make an attempt to be non-disclosing. Faking good is a prevalent problem in domestic circumstances, where, notwithstanding any charges, parenting figures want to posture themselves in a favorable light with respect to their parenting abilities. Instances of “faking good” should be distinguished from the common inclination of defendants to minimize or deny wrongdoing. Minimization of psychopathology is relevant to the question of competence to stand trial only when it clearly interferes with the defendant’s capacity to understand rationally and factually the criminal proceedings or it compromises their ability to cooperate with defense counsel.

Invalidation

This response style occurs when an accused makes an attempt to invalidate either the entire evaluation or an evaluation procedure. It may occur when the subject simply wishes to render the evaluation meaningless or inconclusive. The most common example of invalidation is uncooperativeness. When a defendant refuses to be interviewed or refuses to be tested, the examiner is left wondering whether the refusal signifies intent to distort the evaluation or an underlying incapacity. The examiner must probe the lack of cooperation from the defendant as their fear of being detected as “faking bad” or is it a symptom of genuine paranoia and delusional thinking.

One defendant accused of murdering a female acquaintance and her mother with a machete refused to come out of his hospital room for evaluation and refused to be interviewed about the alleged offense. He had initially agreed to complete a self-report measure of psychopathology, but he consistently failed to answer many of the questions. His responses to the interview questions that did not involve the alleged crime were all generally coherent. Review of an interrogation report taken by police shortly after his arrest, and a social history given by his parents, revealed a long history of paranoid schizophrenia and a delusional justification for the killings. When the evaluator advised the defendant that the court would be advised of the evaluators opinion that the defendant did not meet the criteria for competence to stand trial, the defendant unleashed a torrent of psychotic and delusional threats against the examiner. In such cases, the evaluator can only rely on historical records, personal observations, and the observations of others to attempt to discern the meaning of the uncooperativeness. If such sources are unavailable or are inconclusive, the evaluator should advise the court that because of the defendant’s behavior, a reasonable opinion regarding competency could not be established at the present time.

Mixed Styles

Mixed styles involve elements of “faking good,” “faking bad,” “honest responding,” and/or “invalidation” in the same evaluation. Certain test patterns may suggest a tendency to exaggerate, while interviews suggest honest responding. Historical records may reveal past problems, which are denied or minimized by the defendant during interviews. A defendant may initially be cooperative only to refuse further participation later in the evaluation. In general, the interpretation of these mixed signals is made easier if the examiner distinguishes between the defendant’s capacity and the defendant’s willingness. Despite exaggeration, minimization, or uncooperativeness, the examiner must strive to

determine if the defendant can understand the legal proceedings and is capable of cooperating with defense counsel. We have encountered situations where defendant's meet the criteria of understanding the legal proceedings, but complain that they cannot work with defense counsel and or that defense counsel is somehow biased against them. The latter predicament should be documented, at which point it becomes an issue for the court to manage.

Fluctuating Styles

Fluctuating response styles are observed with clever defendants who have practiced histories of variable response styles in their interpersonal interactions in order to meet their self-perceived needs. Other circumstances of variable response style occur when the defendant's goals change mid assessment, but can also be an indicator of mental illness. The accused may, for example, fake bad to gain a trial delay, but then switch to honesty, or even faking good, to have the process proceed. In one case, a defendant who presented a mixed picture of competence to proceed was told that he would be kept at the hospital for treatment and was moved onto a ward with actively psychotic patients. Before the day was finished, he begged to be sent back to court and acknowledged that he had not been forthcoming.

Cultural Issues

The on-going influx of non-English-speaking immigrants to the United States can present as a significant problem in competency assessments. This is cultural competence (Demers, 2011). Johnson and Torres (1992) described an evaluation approach in the assessment of two cases of criminal competence of non-English-speaking Hispanic defendants. There is a related and somewhat more complicated problem with immigrants from third-world countries, where educational backgrounds can be weak or absent regardless of ability to speak English. Many major metropolitan areas have ethnic minority catchment areas. There are two problems presented by minority groups in terms of competency assessments. The first is the typical unavailability of qualified forensic clinicians within minority populations. The second and more formidable problem is the general legal assumption that immigrants have the civil and legal responsibility to acclimate themselves to the prevailing legal standards and conform to those standards.

With juvenile and domestic matters, the authors have encountered heartrending situations wherein otherwise law-abiding individuals become caught up in legal quandaries that are the result of conflicts between Westernized values and traditional cultural mores. Likewise, there are situations of immigrants presenting with unintended misunderstanding or ignorance of the law. At times, the adversarial process can address such matters with less than a humanistic approach, particularly in family law cases (Hughes, 2006). The problem is somewhat comparable to the judiciary's long-standing difficulty in adequately coping with mentally ill defendants, but the authors acknowledge that the issues with the two populations are inherently different. A fundamental guideline for forensic practitioners is always to refer to the most competent available resources. Short of that, practitioners must make every effort to work collaboratively with resources that may

assist in the most meaningful assessment when cultural issues are a factor. Consider the following case example:

One of the authors participated in a court-ordered evaluation of an African family that had temporarily immigrated to the United States less than a year earlier. The father had been appointed to an assistant ambassador position with a local embassy. The parents were native to very rural areas and had minimal formal education. Both had fair spoken English skills. There were three children ranging from 3 to 8 years of age. The 8-year-old was a girl who immediately began attending a local public school upon the family's arrival stateside. Within 6 weeks of beginning school, a report of possible physical abuse was made to authorities regarding the 8-year-old girl, and during the initial investigation, concerns were raised about the other two children as well.

Competency (of parental fitness) evaluations of both parents were court-ordered at the request of their attorney, who observed the limitations of the parents because of their cultural and language backgrounds. The attorney questioned the parents' abilities to understand the nature of the charges and their ability to assist in their own defense adequately.

The basis of the abuse charges was barely visible, but still evident—markings on the older child's arms and legs. Evaluation by a pediatrician revealed that the markings covered the child's torso as well. The suspicion was that the child had been physically abused by being beaten with a cord-like instrument, perhaps a piece of botanical cane. The evaluation team by necessity made use of an interpreter who spoke the rare dialect of the parents' native language. The extremely distressed parents appeared to care deeply for the children; they excitedly attributed the markings to some type of tribal ritual involving animal parts. The interpreter was perplexed, and hours of questioning proved indecisive. The children adamantly denied any abusive circumstances and presented as clearly regarding the parents with the utmost fondness.

By happenstance, the interpreter was aware of a person who was from the same South African village; the countryman was a curator with a local museum that had an elaborate exhibit on African cultural artifacts. A visit by the forensic team with the curator at the museum proved very productive. The curator explained that the parents' village had a tribal custom of instilling tribe-characteristic markings on latency-aged female children as a pre-pubescent ritual. The custom took place in the context of a large village ceremony, with as many as 20–30 girl inductees; the ceremony was a joyous and festive occasion. The village girls who were of age were softly pummeled with desiccated animal hooves to make characteristic markings essentially all over their bodies. The hooves markings were intended, according to tribal legend, as lifelong indications of achieving maturity as adult women, and thereby being ready for marriage and motherhood.

The curator noted that depending on the child's skin texture and complexion, and no doubt the motivations of the person applying the hooves ritual, the markings were, more or less, visible later. Eventually, it was determined that the mother and her four sisters had all undergone the ritual when they were younger. The curator also advised that the tribal practice had been discontinued approximately 5 years earlier because of outsider complaints.

Our findings were presented to the court, and the abuse charges were dropped, eliminating the issue of the parents' competency to stand trial and as to their competency with respect to parental fitness. This outcome took some 14 months to achieve, with the family undergoing considerable turmoil and distress in the interim. Part of that distress was a nearly successful effort by immigration authorities to send the father and family back home without compensation, and with the probability of the father being disenfranchised from his government in terms of employability, benefits, or social status.

Detection Methods

A knowledgeable defendant may choose to focus dissimulation on specific trial competencies as opposed to malingering gross psychopathology. These competencies include the capacity to:

1. Know the exact charges
2. Disclose elements of the instant offense(s)
3. Understand the roles of the court actors
4. Know the nature and process of the court proceedings, to include understanding the implications of legal instructions (e.g., Miranda warning)
5. Appreciate the possible consequences of the various legal options
6. Cooperate with one's attorney
7. Present oneself appropriately in court

The examiner must be prepared to artfully explore each of these areas within the context of a comprehensive evaluation.

Over the course of the past several decades, there have been hundreds of research efforts and studies addressing the broad forensic area of adjudicative competency (Pirelli et al., 2011; Ustad, Rogers, Sewell, & Guamaccia, 1996). One primary area of on-going research interest has been the development of forensic assessment instruments specifically designed to empirically assess issues of forensic competency (Archer, Buffington-Vollum, Stredny, & Handel, 2006; Kaslow, Grus, Campbell, Fouad, Hatcher, & Rodolfa, 2009). All these instruments remain at peril when up against the power of the human capacity to deceive. This is a point that has been made throughout the chapters of this book. The use of checklists, structured interviews, clinical interviews, inventories, psychometrics, etc. are ultimately dependent on the self-report of human subjects or on the interviews and observations of professionals or paraprofessionals. To date, there is no one implement in anyone's forensic toolbox that can consistently and accurately detect human deception or malingering. As described, at length, in other chapters of this book, the most promising approach is contemporary neuroimaging techniques, but even neuroimaging remains on frontier levels at the current time. With this caveat at hand, we list competency assessment instruments that have been utilized over the years.

In the second edition of this text, we listed seven competency assessment instruments that had been cited in the competency assessment research through approximately the year 2000. These were the Georgia Court Competency Test (Wildman et al., 1978); the Georgia Court Competency Test-Mississippi Version Revised (Usted et al., 1996); the Competency Assessment Instrument (Grisso, 1986, 1988); the Interdisciplinary Fitness Interview (Golding, Roesch, & Schreiber, 1984); the Competency Screening Test (Lipsitt, Lelos, & McGarry, 1971; McGarry, 1973); the MacArthur Structured Assessment of the Competencies of Criminal Defendants (Hoge et al., 1997); and the MacArthur Competence Assessment Tool for Treatment (Grisso & Appelbaum, 1998).

In their more recent meta-analytic review of research regarding competency to stand trial, Pirelli et al. (2011) listed another five instruments. These additional five instruments are: The Metropolitan Toronto Forensic Service Fitness.

Questionnaire (Nussbaum, Mamak, Tremblay, Wright, & Callaghan, 1998); the Fitness Interview Test (Roesch, Zapf, Eaves, & Webster, 1998); the Computer-Assisted

Determination of Competency to Proceed (Barnard et al., 1992); the Mosley Forensic Competency Scale (Mosley, Thyer, & Larrison, 2001); the Evaluation for Competency to Stand Trial–Revised (Rogers, Tillbrook, & Sewell, 2004); and the Test of Malingered Incompetence (Colwell, Colwell, Perry, Wasieleski, & Billings, 2008).

In addition to the 13 instruments listed above, psychologists have continued to use traditional psychometrics as part of competency assessments. According to Pirelli et al. (2011), their study determined that the most widely used of these instruments were the Minnesota Multiphasic Personality Inventory, the Wexler Adult Intelligence Scales, and the Brief Psychiatric Rating Scale. Finally, we note that some competency assessments involving suspected cerebral impairment may require administration of a neuropsychological test battery (Arredondo, Marcupolus, Brand, Campbell, & Kent 2017; Denny & Sullivan, 2008; Finkle, Kurth, Cadle, & Mullan, 2009; Heilbronner, 2017; Wynkoop, 2003; Young, 2013a, 2013b).

Conclusory Comments

In the real world of actually conducting competency assessments either in the field, or in dedicated inpatient forensic settings, the nature of the assessment including the format and supplementary instruments utilized are determined by the terms of a court order to particularly include stipulated turnaround time for the assessment to have been completed. With major criminal acts that have involved serious consequences and gathered major social and political concern, there is typically greater latitude for the time and extent of the format of conducting a competency assessment. Depending on the setting (e.g., rural municipality courts, and local district courts) involving more routine legal matters, for example, misdemeanor and other non-serious criminal actions, turnaround time can literally be hours. The forensic clinician must accommodate to these circumstances and not be distracted by the example of flamboyant, highly publicized, high-profile criminal matters that garner the attention of the media. Research statistics (Kucharski, Ryan, Vogt, & Goodloe, 1998; Pirelli et al., 2011; Rosenfeld & Ritchie, 1998) have reflected that a majority of defendants judged to be non-competent have committed misdemeanors, have established and documented histories of mental illness especially psychosis, and evidence hardship profiles involving poverty, homelessness, substance abuse, and related issues.

As with all forensic evaluations, opinions based on a concordance of evaluating professionals increase the weight of the expert opinion. The weight of an opinion based on a hour or two assessment by a single expert simply will not carry the weight of an opinion from the staff of an inpatient forensic setting that has conducted a 30 to 60 day, 24 hour/7 day per week inpatient observation of a defendant.

In conducting competency assessments, an index of suspicion should always be invoked with defendants claiming incompetence, but who have no prior history of psychiatric hospitalization or documented complaints of mental health problems (Kucharski, Ryan, Vogt, & Goodloe, 1998). Clinician training and experience as well as understanding local system organization and political structures are critical variable variables in conducting valid competency evaluations (Edens, Poythress, Nicholson, & Otto, 1999; Rubenzer, 2018; Wilcox & Nicdaeid, 2018). Forensic evaluators should utilize validated and current instrument methods with appropriate caution and follow ethical guidelines regarding use of psychometrics. Preparation of reports should involve thoughtful and empirically grounded formulation of

ultimate opinion(s) (Otto, DeMier, & Boccaccini, 2014). Written opinions should at least acknowledge the consideration of the possibility of malingering/deception dynamics.

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Introduction

In contrast to the abundance of reports and several methodologically sound instruments in the literature regarding adjudicative competency, there is a dearth of corresponding studies regarding the assessment of criminal responsibility (Borum & Otto, 2000; Otto & DeMier, 2008). This is because criminal responsibility assessment, involving the reconstruction of the past in terms of different factor dimensions, such as mental diagnosis and an analysis of choice and self-control for the times before, during and after the alleged offenses is generally a far more involved process than assessment of competency for the time of the evaluation. The suggestion here is not that there are substantive differences of adjudicative importance between competency and criminal responsibility assessment, but rather that competency assessment deals with the present and is generally more straightforward in comparison to criminal responsibility assessment. As the last chapter discusses, competency assessments are also generally less involved in terms of deception detection. These salient differences based on the authors' experiences are outlined in [Table 17.1](#).

Most readers of this book will have a grasp of the all-important history of the insanity defense (for historical reviews, see Shapiro, 1999; Slovenko, 1973). It is worthy to note that neither ancient Hebrew law nor the Roman Justinian Code in the sixth century held insane persons accountable for crimes (Weiner, 1980). William Lambard, a judge who lived 400 years ago, pointed out three categories of persons who should not be accountable for their misdeeds when he stated the following: "If a mad man or a naturalle foole, or a lunatique in the time of his lunacie, or a child y apparently had not knowledge of good or evil do kill a ma, this is no felonious acte, nor anything forfeited by it." While it is extremely difficult to fake inclusion into the latter category concerning the age of the alleged perpetrator, attempts of criminal defendants to feign mental disorders to include brain/developmental disorders are expected to continue (e.g., see review by Ebert & Long, 2008).

The insanity defense has undergone substantial changes in the last few decades. Based on the mistaken arguments that the insanity defense is easily "faked" and that many guilty criminals are unjustly spared from punishment by use of the insanity defense, several state legislatures have abolished the defense. Other states and the U.S. Congress have severely curtailed their definitions of legal insanity, and still others have introduced an alternate verdict ("Guilty but Mentally Ill") in hopes of persuading courts to find fewer defendants legally insane. The difficulty for forensic experts is that federal and state laws do not provide the inclusionary criteria for malingering and deception in order to rule in or rule out criminal responsibility.

There are varying definitions of legal insanity in the state and federal jurisdictions. Some jurisdictions will excuse criminal behavior if it is the product of a mental disorder; others require that the perpetrator, at the time of the offense, was so mentally impaired that he could not appreciate the criminality of his conduct or could not conform his conduct to the requirements of law; and a few require that the accused could not tell the

Table 17.1 Assessment Differences Between Competency and Criminal Responsibility

Function	Assessment Type	
	Competency	Criminal Responsibility
Temporal concern	Current level of functioning	Level of functioning, prior to and at the time of the alleged offense
Background database offense circumstances	Prior records helpful and desirable; not necessarily directly relevant	Access to all prior records critical Constitutes critical information in terms of defendant behavior at the time of offense
Deception potential	Possible to likely	Likely to very high
Probability of deception contaminants (i.e., collusion of others, coaching, researching symptoms)	Low, if defendant is evaluated close to time of arrest; after that, possibilities increase dramatically	High
Probability of deception detection	Reasonably good	Can be very complicated and difficult
Need for appropriate psychometrics	Desirable	Very important and often essential
Multidisciplinary assessment	Desirable	Very important
Need for collaborative contact(s)	Minimal	Extremely important
Evaluation time	Generally 1–2 hours	Varies with case and can range from a few to hundreds of clinician hours

difference between right and wrong in regard to the criminal act. At least one state holds that a person's criminal behavior will be excused only if it was the result of a "delusional compulsion," which overpowered the will of the perpetrator. Shapiro (1999) summarized the impact of the Insanity Defense Reform Act of 1984, which followed the furor over the not guilty by reason of insanity defense of John Hinckley in 1982. A year earlier, Mr. Hinckley attempted the assassination of President Reagan. The Act is the requirement in federal courts and has also been incorporated into the statutory codes of several states.

The Act, current to 2019, essentially removes the volitional prong—the lack of substantial capacity to conform one's behavior to the law—from the American Law Institute (ALI) Model Penal Code, leaving intact only the cognitive prong (i.e., appreciation of the wrongfulness of one's behavior). Together with the *Daubert* standard (*Daubert v. Merrell Dow Pharmaceuticals, Inc.* 1993), discussed in previous chapters, the changes in insanity tests and (expert) testimonial standards made for more objectivity and replicability of results, such as the requirement for qualified experts to report known error rates and publications in peer-reviewed sources. Paradoxically, it has not substantially reduced the number of not guilty by reason of insanity (NGRI) acquittals, already very low as discussed previously. As a possible cause, mental health experts are still regarded by many attorneys and other legal actors with a significant degree of suspicion (Fradella, Fogarty, & O'Neill, 2003). A substantial amount of disdain and hostility directed at forensic mental health experts remains (Edens, Smith, & Magyar, 2012), which could account for the lack of impact by simply changing the law. Edens et al. (2012) findings were based on 160 criminal and civil court cases, with the major conclusion that diverse forms of expert bias may go

beyond financial motives. The most frequent complaint against mental health experts is that they were seen as being “for sale,” almost equally to the perception that they were a biased partisan/advocate for either the defendant or the state in the legal process. Prosecutors had more complaints than defense attorneys about opposing mental health experts. To minimize the negativity toward mental health experts, adherence to the 4 Cs was recommended (i.e., clarity, clinical knowledge, case specificity, and certainty). Regardless of perception by attorneys and other legal actors, insofar as malingering and deception are concerned, experts are still on their own in applying the wording of extant statutes and case law regarding insanity in particular cases.

This chapter focuses on distortion and deception during evaluations of criminal responsibility rather than on the insanity defense *per se*. Specific techniques for evaluating deception are described throughout this book. In this chapter, the fundamental importance of self-control and choice at the time of the instant offense is highlighted. Demonstrating the extent of defendant self-regulation—if it exists to any discernible degree during the alleged offense—has three important by-products: (1) the defendant’s mental condition is clarified in terms of severity (hence, its impact on responsibility for the crime); (2) self-reports by the defendant become less relevant than the abilities and skills evidenced by the defendant during the commission of the alleged crime; and (3) the impact of information about self-control on the trier of fact is significantly enhanced, since judges and juries typically respond favorably to a description of the defendant’s acts which are behaviorally anchored and cross-validated.

Despite near universal agreement that a deception analysis must be integrated into a competent criminal responsibility evaluation, as discussed previously, there is no agreed upon format or set criteria for the report or testimony relevant to deception and distortion. However, the retrospective decision path for distortion and deception outlined in previous chapters can be utilized to cover the major parameters of the deception analysis, which then can be used as a basis for expert testimony. In essence, the decision path consists of obtaining an adequate database, ruling out nondeliberate distortion and determination of response styles, defendant reconstruction of alleged offenses, analysis of historical behavior, and proffered conclusions.

Using the ALI test of insanity as an example, the inherent three-part decision path that suggests lack of criminal responsibility is this: First, there must be a sufficiently severe mental condition. Second, there must be a substantial impairment in the appreciation of wrongdoing (or the ability to conform one’s behavior to the requirements of the law in those state jurisdictions which have not dropped the volitional prong). Last, there must be a demonstrable connection or link between the mental condition(s) and any substantial impairment that is uncovered.

Various forensic investigators have attempted to standardize criminal responsibility evaluations. Ferguson and Ogloff (2011) pointed out that no test or battery of tests, except for Richard Rogers’ Rogers Criminal Responsibility Assessment Scales (RCRAS) and SADS, have adequately provided reliable and valid data on criminal responsibility evaluations (Rogers & Bender, 2018). The Minnesota Multiphasic Personality Disorder-2 (MMPI-2), a traditional measure of mental conditions and status, they argue, has some studies that distinguish between groups of offenders found guilty and those found not criminally responsible. Decisions using RCRAS have shown high agreement with actual court outcomes (Rogers, 1984). Rogers (1984) system is databased, flexible in terms of definition of insanity, and represents a clear advancement in the assessment of criminal responsibility.

There is a general judicial resistance to accepting criterion-based or statistical approaches in favor of the qualitative or idiosyncratic analysis of individual defendants (Hall, 1982, 1985, 1987, 2008). There is also reluctance by clinicians to embrace actuarial prediction technology even though the accuracy of existing assessment tools improves predictive ability well beyond chance (Steadman, Silver, Monahan, Appelbaum, & Robbins, 2000).

The RCRAS sequentially analyzes: (1) malingering, (2) organicity, (3) mental disorder(s), (4) loss of cognitive control, (5) loss of behavioral control, (6) whether the loss of cognitive and/or behavioral control resulted directly from organicity or from a mental disorder, and (7) conclusions regarding “insanity” using the ALI and M’Naughton definitions of insanity.

The RCRAS, whose scores are highly correlated with outcomes, is in essence an examiner rating scale and should never be the sole measure of criminal responsibility or deceptive behavior. The value of the RCRAS, besides representing an empirically validated approach with high agreement between judicial outcomes and scores, is that it expands the ALI 3-part test of insanity by providing empirically based findings for each step in the decision process. And Rogers (1984) provides decision models for other tests of insanity as well. Unfortunately, following his suggested decision path, if malingering (i.e., faking bad) was present, it would have forensic experts concluding that the defendant was automatically criminally responsible for the alleged acts. Nor does invalidation or attempted invalidation as a major variant of deception styles play a significant role in the RCRAS-based criminal responsibility evaluation. Defensiveness and faking good as well as defendants invalidating assessment procedures do account for significant deception in forensic examinations of criminal responsibility, as determined by the authors’ clinical-forensic experience and empirically based reports (see Hall & Poirier, 2001; Hall, Poirier, & Thompson, 2007; Hall, 2008).

As stated, the treatment of deception in the RCRAS is confined to malingering (faking bad). Forensic evaluators should seriously consider that defendants who blatantly malingering can still be genuinely mentally ill. In the authors’ experience, and in the literature cited elsewhere in this book, the most disturbed defendants are sometimes the ones most likely to malingering. Although rare, the forensic examiner must consider the possibility that the patient-defendant is both malingering and had a bona fide mental disorder at the time of the crime. Hall (2008) and Hall and Poirier (2001) also note that they have had criminal cases where the defendants faked good, showing defensiveness and denial, in the face of severe mental illness. Generation of false negatives (i.e., those falsely considered to be sane or responsible) is a possible outcome of adherence to the RCRAS criteria on deliberate deception and needs to be researched.

In recent years, Rogers and Bender (2018) elaborates on faking good and other variants of faking of deception. Rogers and Bender (2018) in a research-oriented review demonstrated that the MMPI-2 (and MMPI-2-RF) has a well-developed effective strategy for the detection of both malingering and “malingering by proxy” (e.g., couching by defendant’s attorneys, lay persons, or by Internet sources including YouTube instruction). He concluded that this most popular objective test has only partial effectiveness for the detection of defensiveness when coached.

Rogers and Bender (2018) showed by empirical evidence that the Structured Interview of Reported Symptoms, 2nd Edition (SIRS-2) is effective for the detection of malingering, but only partially effective for determining the presence of defensiveness; it was effective for malingering even when coached, but ineffective for the detection of defensiveness under the same circumstances. The personality assessment inventory (PAI) was demonstrated to have adequate effectiveness for the detection of malingering and partial effectiveness for

defensiveness. The PAI was effective for the detection of malingering when coached, but not effective when defendants were coached on defensiveness. In his review of methodology, Rogers determined that the Millon Clinical Multiaxial Inventory (MCMI-III) is partially effective for the detection of both malingering and defensiveness, but is not effective when defendants are coached in either scale. Thus, if a forensic expert wished to assume the defendant had some help or the equivalent of coaching in preparing for the criminal responsibility evaluation, he or she should use the MMPI-2/MMPI-2-RF and/or the SIR-2 for malingering, but expect only partial effectiveness for defensiveness on the MMPI-2/MMPI-2-RF and PAI.

Rogers and his colleagues, as stated, analyzed malingering along the decision path of the evaluator (Hall, 2008; Hall & Poirier, 2001; Rogers, 1984; Rogers & Cavanaugh, 1981; Rogers, Seman, & Wasylwi, 1983). In offering the RCRAS, Rogers (1984, p. 24) stated that the RCRAS asks the examiner to judge the severity of malingering on the RCRAS's 5-part Likert scale as follows:

Reliability of patient's self-report under his/her voluntary control:

1. No information
2. Highly reliable self-report; examiner is impressed by the patient's openness and honesty, which may include volunteering potentially self-damaging information
3. Reliable self-report; the patient reports in a factual, sincere manner. He/she may not volunteer potentially self-damaging information and may gloss over a few incidental details
4. Self-report with limited reliability; the patient answers most of the questions with a fair degree of accuracy (volunteers little or nothing and distorts or evades a few specific areas)
5. Self-report without reliability; the patient, through guardedness, exaggeration, or denial of symptoms, convinces the examiner that his/her responses are inaccurate. There may be suspected malingering

Lastly, "(5) definite malingering" on this scale is ruled in when the evaluator integrates the reliability and validity of defendant self-reports with other information and compares the total information with the definition of the ALI test of insanity, if that is the test utilized. Note that the clinical judgment of the interviewed defendant contributes to a major part of the rating of deception.

Recommended Process Approach to Criminal Responsibility

Based on over 1000 court-ordered sanity evaluations, a heuristic model for criminal responsibility evaluations is presented by Hall (1985, 1987, 2008) and Hall and Poirier (2001). This involves the sequential and post-hoc analysis of the: (1) forensic database, (2) type of distortion and/or deception shown by the accused, (3) defendant's reconstruction of the instant offense, (4) long-term (i.e., historical) versus instant crime behavior, (5) mental disorder(s) of the accused in terms of whether the conditions are causally connected to the instant offense as well as sufficiently severe, (6) self-determination and choice of crime-related behaviors, and (7) replicable conclusions regarding criminal responsibility. Absent one or more of these seven factor sets renders an incomplete evaluation process,

where conclusions cannot be reliably and validly drawn. The foundational chapters and those in this section on criminal offenses elaborate each of the steps. Finally, malingering and deception analysis are primarily discussed in Step 2, although in principle no phenomenon, including intentional deception, can be studied in isolation without reference to the overall set of influences. Let's summarize each step, in turn.

Step 1: Adequate Forensic Database

The first step involves the creation of a reliable and valid database, multisourced and interdisciplinary in nature, that forms the basis for all proffered conclusions regarding criminal responsibility. The content of the database is provided by looking at the perpetrator, victim, and context of the crime and other data relevant to the accused's current and past circumstances.

The most important part of the forensic analysis may be the database upon which steps 2–6 and the conclusions of the evaluation rely. Criteria for including data in the database are that they are reliable and valid and based on information drawn from sources in addition to the defendant. Criteria for excluding information from the database include findings determined to be the result of bias, unreliability, or the use of invalid methods (Hall, 1985, 1987, 2008). It is especially important to gather data from sources the defendant wishes to conceal because of the likelihood of finding unfavorable, but needed information to understand the case (e.g., juvenile records, so-called “expunged” records, which may be available in an unmodified form at government archives centers, interviews with ex-spouses and mates, military performance reports, and information from other states or countries). It is helpful for the credibility of the examiner to base the forensic evaluation on as many sound database sources as possible within the time limits imposed by the court.

A strong note of caution needs to be sounded regarding use of an interview with the defendant as the principal source of data in a sanity evaluation. Empirical research indicates that the clinical interview is so poor that forensic examiners are frequently unable to repeat their own performances. A classic statement by Ziskin and Faust (1988) is the following:

The clinical interview is a completely unreliable data gathering process.

They go on to state:

The more than 80 references cited in [this] chapter...shows that because of examiner and situation effects which are almost invariably present in forensic matters, but incapable of segregation or measurement, the data—that is, the raw data—the clinical examinations are worthless for legal purposes. Thus the process commences with worthless data.

Earlier in this book, we discussed the continuing problems and findings in relying on the clinical intuition and judgment of the examiner as the key tool for forensic assessment. You would think that this caveat does not apply to valid structured interviewing measures, such as provided by the SIRS-2 and RCRAS, as discussed earlier in this chapter. But incompetent and/or biased forensic professionals, as we discussed, can contaminate a database by omission or commission. The forensic professional is suspect if the expert does not analyze or sloppily reviews key data, such as the police reports or witness statements, and therefore should be questioned closely in regard to the completeness and his or her memory of the gathered database. This is why the senior author in murder cases routinely goes to the

crime scene, inspects the physical evidence in the police property room, and interviews key witnesses and significant others. He prepares before court for several hours in order to remember pertinent data relevant to the seven-step process.

Police can and do make substantial mistakes in gathering evidence and rendering their reports. Videos of the accused by the police should be reviewed carefully to detect leading or biasing questions, undue pressure to confess, and whether the defendant was fit to be interviewed. Some defendants, for example, may be disorganized in their thoughts and behaviors due to a substance use issue, who then would be essentially incompetent to confess or even be interviewed without risk of compromising due process. Legal cases relevant to gathering an adequate database should be considered by almost all forensic professionals who rely on police reports for the accuracy of observations and findings. They include:

- *United States v. Jones*, 565 U.S. 400 (2012): The court found that attaching a GPS to a vehicle and then using it to see the vehicle's movements is a search under the Fourth Amendment.
- *Riley v. California*, 573 U.S. ____ (2014): This case asserts that police must obtain a warrant in order to search digital information on a seized cell phone seized from an arrestee.
- *Carpenter v. United States*, 585 U.S. ____ (2018): Government obtaining cell-site records constitutes a Fourth Amendment search and requires a warrant.

In several forensic cases, a portion of the authors' database was disallowed because of the poisoned fruit of the tree argument due to police mishandling of the case.

Step 2: Analysis of Distortion and Deception

The next step in the decision process consists of ruling out or accounting for nondeliberate distortion within: (a) the reporting person and (b) the reported event. Nondeliberate distortion due to anxiety, fatigue, or other factors may largely explain both evaluation and crime behavior and is therefore considered before opinions regarding deception are proffered and was discussed at length in the foundational chapters.

Deception, the second part of this analysis, should be ruled in by a positive and replicable demonstration of misrepresentation. Deliberate distortion may be shown by the examiner, the client, and any witness or party involved in the evaluation. Examiners can and do deliberately distort for various reasons, as probed in the chapter on deception in civil contexts. The authors know of several forensic examiners who appear to thrive on the drama and publicity of court work and whose judgment and decisions are clearly influenced by a personal desire to "stir up controversy." It is not inappropriate to look at the evaluator's track record for particular types of forensic assessments (e.g., percentage of time for which he or she testifies for the defense versus for the prosecution), rate of court agreement with rendered opinions, and whether or not proffered findings can be replicated by equally competent examiners.

The evaluation of the defendant's self-reports should be scrutinized for misrepresentation by examining third party reports and material evidence of the alleged crime. Psychometric testing is very appropriate for assessing distortion in victims and other parties. Data derived from the input of significant or knowledgeable others, which indicate bias or a given motivational set (e.g., desire for revenge, to rejoin defendant), should be excluded from the data pool or placed into proper perspective by being compared with other known data.

Step 3: Defendant Reconstruction of the Instant Offense

A defendant's recollection of an alleged crime is almost always necessary in order to respectively determine the defendant's state of mind, a difficult, but key question of the criminal court. Even when the defendant does not testify or when the extant test of insanity shifts the burden of proving sanity to the government after the defendant has raised it as a defense, the defendant's state of mind at the time of the crime is critical to the successful application of the insanity defense. Although state of mind can often be inferred from eyewitness accounts, from material evidence, and from reports of third parties regarding events before and after the crime, the defendant's own description of events is helpful and some deem essential as one source of data.

Before eliciting a defendant's version of the alleged offense, however, it is critical that the examiner determine the legal admissibility of the defendant's statements. In some jurisdictions, a defendant's statements to an examining professional may be admitted not only as evidence of state of mind to shed light on whether he or she was not criminally responsible, but also as evidence that the defendant committed the crime (i.e., a confession). In such jurisdictions, the examiner is ethically obliged to inform the defendant of the potential uses of the statements (American Psychological Association Division 41, 1991, adopted by APA, 2011 as *Specialty Guidelines for Forensic Psychology*) and, under some circumstances, is legally obligated to do so. This obligation is discussed in *Estelle v. Smith*, 451 U.S. 454 (1981), which was a U.S. Supreme Court case in which the Court held that, per *Miranda v. Arizona*, 384 U.S. 436 (1966), the state may not force a defendant to submit to a psychiatric examination solely for the purposes of sentencing, as the examination violates the defendant Fifth Amendment rights against self-incrimination as well as the Sixth Amendment right to counsel, and is therefore inadmissible at sentencing.

Step 4: Analysis of Historical versus Crime Behavior

The next step involves historical analysis of criminal behavior versus that shown during the instant offense. The goal is to determine whether the instant offense is typical or atypical for the defendant. Rare events are most likely triggered by high stress or by an unusual combination of environmental or internal events. Common events suggest a habitual pattern and are considered more inculpatory. Be careful here, as many jurisdictions preclude evidence on past offenses as inflammatory and prejudicial to the notion that alleged offenses are to be treated independently and weighed separately from past criminality. This may not be applicable if the past behavior is connected to the instant behavior in terms of similarity of function or causality (e.g., previous spouse abuse with threats to kill coupled with actually killing that person at the time of the alleged murder). The forensic expert, if in doubt, can suggest to his or her retaining attorney an in limine motion, outside the presence of the jury, in order to set acceptable parameters for expert testimony.

Step 5: Mental Diagnosis

A diagnosis of the defendant's mental state for the time of the crime usually requires evidence in support of a diagnostic category in an accepted typology of mental disorders (e.g., *DSM-5*, *ICD-11*, released 2018). The diagnosis requires evidence that the condition existed at the time of the alleged crime, regardless of whether or not it also existed prior to or after the crime. Evidence of a chronic mental disorder (e.g., schizophrenia, mental retardation,

organic personality disorder) in existence before the instant offense increases the likelihood that the disorder also existed at the time of the crime, but is not sufficient by itself. Some chronic mental disorders can be in remission or partial remission or can be controlled with psychotropic medications. Evidence of prior episodic explosive incidents, for example, is relevant to diagnosis at the time of the instant offense only if the instant behavior was also explosive and insufficiently provoked. Evidence of a mental disorder (e.g., depression or anxiety disorder), which arose after the instant crime, is generally irrelevant to a diagnosis at the time of the offense. Most jurisdictions exclude from their definitions of legal insanity certain mental disorders, such as voluntary substance intoxication and antisocial personality disorder.

Step 6: Analysis of Self-Regulation, Self-Control, and Choice

The existence of a mental disorder at the time of the instant offense may not shed light on the (legal) blameworthiness of the defendant. The severity of the disorder and its impairment of critical faculties at the time mediate its exculpatory effect. The analysis of self-control and choice by the accused is central to the determination of criminal responsibility. Intact self-control and choice for the time of the alleged crime often lead to a finding of criminal responsibility. Conversely, impaired self-control frequently results in exculpation or mitigation of responsibility for the instant offense.

[Appendix B](#) presents a detailed checklist of discrete behaviors for the times before, during, and after the instant offense. Examiners are encouraged to utilize this checklist (and/or give it to referring attorneys to fill out and return). It has been refined after application to hundreds of cases of evaluation for criminal responsibility. [Appendix C](#) presents an exemplar of a criminal responsibility evaluation report, which forensic practitioners may find helpful. At the very least, use of the format sequence and content factors will communicate to the court that the evaluator has been thorough in his or her assessment of issues relating to the difficult question of insanity.

The following section of a forensic report by a psychologist retained by the state presents a self-control analysis of a 25-year-old Caucasian male who was subsequently found guilty of hammering his homosexual lover to death. It should be noted that he admitted lying to the three-panel sanity examiners about the alleged presence of auditory hallucinations telling him he was a devil. His faking was an attempt to cop an insanity verdict. He recanted his faking bad when examined by the psychologist retained by the state.

Factors suggesting intact self-control for the time of the instant offense included the following:

1. No reported hyperactivity except during the commission of the homicide itself.
The rapid hammering was necessary to successfully kill the victim
2. No reported rapid, pressured, perseverative, or incoherent speech
3. No reported mental confusion or disorganization of behaviors
4. No amnesia for alleged crime-related events
5. No other alleged uncontrollable/impulsive behavior aside from the instant offense;
the accused showed a wide range of appropriate and controlled behavior for the week previous to the alleged crimes
6. No substance intoxication, although he did ingest some cocaine and consumed several beers on the night prior to the offense

7. No heightened anxiety of maladaptive proportions or of such a nature as would create immobilization; the accused reported anxiety over whether the victim would wake up just prior to the homicide and impede his movement by defensive behavior. This elevated anxiety did not prevent the attack
8. Intact gross and fine motor skills, suggested by the physical activity engaged in by the accused prior to, during, and after the homicide
9. Intact recall of alleged crime events, as shown by later recollection of specific events (e.g., during interrogation) and by reliance on recall in order to carry out the instant offense (e.g., the accused recalled remembering that the victim was in his bed and weaponless)
10. Intact ability to interact verbally with the victim and to utilize auditory feedback, even though his responses may have been maladaptive (i.e., violent). He recalled the victim shouted “stop” several times, and he replied “you lying SOB” just before his alleged violence
11. The ability to delay gratification of anger impulses by waiting until the victim returned to sleep and by starting the sequence of assaultive behaviors (i.e., raising his arm) only to interrupt the chain of behaviors by setting the hammer down for a period of time when the victim moved
12. A specific focus on the killing, with a particular victim, a particular weapon, which could easily be lethal, and a particular method of attack (striking blows to the head) in a manner likely to produce death. Crime photos show the victim’s skull caved in on both sides, on the left side, primarily in the temporal lobe area, and on the right side, extending from the prefrontal area back to parietal-occipital sites
13. The perceptual-motor skills required to ambulate to a point beside the victim, to aim at a vital spot, and to strike that spot multiple times, killing the victim in the process. Discrete victim behavior was recalled, such as turning on his side after the first blow
14. Increasing the severity of the hammer attack after the victim opened his eyes following the first blow
15. The ability to monitor and recall by tactile memory the results of the hammer attack (e.g., stating that the victim’s head felt like “broken glass” after the attack).
16. Intact recall, scanning, and other skills required to search the apartment and successfully locate and retrieve valuable items belonging to the victim
17. Attempting to avoid apprehension, represented by hiding the murder weapon, leaving the alleged crime scene, traveling away from the crime scene, lying to friends regarding how he acquired the van, eventually hiding the van, and throwing the keys in the bushes. He specifically recalled that he left his blood-stained yellow/blue striped underpants in the apartment of the victim. Each of these self-controlling behaviors was confirmed by cross-validating data

In the above case, the defendant was found guilty of murder. Interviewing the jury members confirmed that his lying to the sanity examiners played a key role in the finding of guilt.

Step 7: Proffering Conclusions

The last step in the retrospective decision process consists of offering conclusions in regard to criminal responsibility. Adequacy of the database, degree of self-control exhibited, and

the links between mental condition and possible loss of self-control are all issues that must be addressed. The report format should conform to the retrospective decision path.

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Introduction

Memory deficits are found in everyday life and in many pathological conditions. They span chronological ages from childhood to old age. They can be both transient and permanent, specific and global, functional and organic, and normal and pathognomonic. Moreover, because they are largely private events like suicide ideation and hallucinations, they are fakeable and highly subject to distortion. Genuine memory problems can arise from dysfunctions at any stage of information processing: registration, short-term storage, consolidation, long-term storage, or retrieval. For example, failure of registration may be due to limits in the span of apprehension (e.g., children may apprehend three items of information, while adults may apprehend seven items) or to deficits in “chunking” or categorizing information. Problems in short-term storage may be due to deficits in the durability of the memory trace or to attentional deficits. Problems in retrieval may be due to a heightened sensitivity to interference or to a failure of consolidation.

These various deficits may have diverse origins. Impaired memory performance, *per se*, has no value for differential diagnosis of pathological conditions. [Table 18.1](#) presents examples of etiological events and conditions associated with mnemonic difficulties.

Everyday Assumptions

One way to increase our understanding of those persons feigning recall problems is to look at the apparent assumptions they make in regard to how memory functions. These assumptions may conform to a common sense or Layman’s view of memory, but may not be consonant with empirical facts about memory processes. The typical person is unlikely to distinguish recognition and recall processes, primacy and recency effects, or learning curves and forgetting curves (e.g., Hall, 2008; Wiggins & Brandt, 1988).

Erroneous assumptions made by deceivers should be studied for clues to deception in every forensic evaluation. These include the following:

1. People know their memory only to a limited degree. Memory traces are sometimes temporarily below the threshold of awareness. Fakers may wrongly think, as another example, that they can recall their answers to a particular test, yet are unable to repeat their performance when retested. Other distortions may be present
2. The examinee may not know that some types of memory are more stable over time than others; for example, visual experiences involving places (visual memory) are generally recalled more reliably than conversations (auditory-verbal memory). The faker may not know this and perform differentially on various sensory-related tasks. Hidden memory, such as word completion to stimulus words or sentence

Table 18.1 Etiologies of Mnestic Problems

S. No	Condition/Event	Erroneous Assumptions regarding Faked Memory:
1.	Neuropsychological Organic brain syndrome (OBS) Toxic states	Traumatic brain injury, epilepsy, tumor, stroke, dementia Intoxication, poisoning, neuroleptic syndrome
2.	Psychosis Schizophrenia Affective disorders	Florid states Agitated or depressed periods
3.	Psychogenic Repression Dissociation Depression Adjustment disorders	Intense stress Hysteria, fugue, multiple personality disorder Slowing of cognitive processes Acute stress
4.	Pure malingering	Prevarication not associated with mental disorder or condition
5.	Combinations	Malingering associated with genuine deficits/conditions

stems are found with true amnesiacs. Graf, Squire, and Mandler (1984) in a replicated study found that word completion (cued recall) in amnesic patients declined at a normal rate when subjects were presented with the first three letters of each word presented earlier. They also cite literature which shows that amnesic patients perform normally when: (1) given degraded versions of previously presented words, (2) reading words from a mirror-reversed display, and (3) completing puzzles

3. For almost all people, a well established finding is that recognition is almost always better than free recall. This is true for normals, those experiencing post hypnotic amnesia, and the brain damaged (Brandt et al., 1985; Iverson, Franzen, & McCracken, 1991; see review in Hall & Poirier, 2001). Those examinees who attempt to fake loss of memory often disregard this characteristic of memory

For the above points, see [Table 18.2](#) regarding simple recall questions that are implausible or inaccurate.

The question can be raised as to whether faked amnesia impairs subsequent recall, an issue raised by Sun, Punjabi, Greeberg, and Seamon (2009). They experimentally found that the “feigned amnesia effect” likely reflected nothing more than differential practice at recall. Fakers often practice and rehearse their false behaviors and statements prior to evaluation.

Table 18.2 Suspicious Memory Deficits if Wrong or Implausible Answers Are Presented

1. “What is your ... a. Name?” b. Age?” c. Birth date?” d. Telephone number?” e. Address?” f. Mother’s first name?” g. Mother’s maiden name?” h. Brother’s name and/or sister’s name?”
2. “What did you have for breakfast this morning?”
3. Recognizes examiner’s name from four choices on day 2 of evaluation if failed to recall it

Source: Wiggins, E., and Brandt, J., *Law Hum. Behav.*, 12, 57–78, 1988.

There is an important side note to the utilization of multiple valid methods and measures of deception by the forensic evaluation which, as the literature suggests, tends to increase diagnostic accuracy. This is the notion of establishing posterior probabilities, or multiple indicators of poor effort or symptom magnification in aggregate to aid detection (Slick & Sherman, 2013).

Neuropsychology of Mnestic Problems

Forensic professionals need to become familiar with the neuropsychology of memory to intelligently comment on an individual's possible faking. Lezak, Howieson, Bigler, and Tranel (2012) discuss the neuropsychology of memory loss from brain injury. Closed head trauma often involves both anterograde and retrograde amnesia. Anterograde amnesia (sometimes called post-traumatic amnesia) refers to memory deficits during the period after a head injury and includes the time of any coma, the time of any confusional period after consciousness is regained, and, in severe cases, a time of varying length thereafter. Retrograde amnesia refers to deficits in the retrieval of memories already consolidated prior to the head injury. In the natural course of recovery from head injury, anterograde post-traumatic amnesia gradually improves, after which the duration of the retrograde amnesia reduces to a time shortly before the trauma. This process of salvaging old memories and consolidating new memories is quite variable, depending on the severity of the injury and age of the patient, and may range from a few seconds to years.

Even in cases of mild closed head injury, with no loss of consciousness and normal radiological and neurological tests, memory deficits may be apparent in everyday functioning. Misplaced keys, lost charge cards, the reason for walking into another room at home, and appointments and commitments are sometimes forgotten if not written down, despite adequate motivation to carry through the intended task. New learning and long-term memory are minimally required on the standard psychological examination. Those suffering from mild cognitive dysfunction often perform in the average or higher range of intellectual functioning on standard intelligence tests.

In general, there is a positive correlation between the severity of a head injury (as measured, for example, by length of coma) and the severity and duration of both anterograde and retrograde amnesia. There is also a positive correlation between the severity/duration of anterograde amnesia and the severity/duration of retrograde amnesia, although retrograde amnesias tend to be brief. Furthermore, there is a positive correlation between the duration of anterograde amnesia and everyday functioning. This finding, based primarily on findings in clinical contexts, has been utilized by those evaluators who advocate for a quick return to work by the examinee.

Within broad limits it may be predicted that a patient with a[n anterograde amnesia] of less than an hour will usually return to work within a month, with a[n anterograde amnesia] of less than a day within two months, and with a[n anterograde amnesia] of less than a week within four months. [Anterograde amnesias] exceeding a week will often be followed by invalidism extending over the greater part of a year (Lishman, 1987, p. 145).

As the chapters on civil-forensic deception and neuropsychological functioning make clear, the deleterious effects of brain trauma persist long after the above temporal estimates.

The severity of a closed head injury and the duration of anterograde amnesia can and do, however, provide a rough clue as to the genuineness of claimed memory deficits.

If a head injury was truly mild, residual memory deficits should also be mild and should be more apparent in incidental memory than in memory shown during psychometric evaluation. A patient presenting with a history of mild head injury and complaints of severe mnestic deficits, absent focal injury to cerebral sites and systems associated with memory, would appear suspicious. If the closed head injury was severe, longer lasting and more severe anterograde amnesia can be expected. A patient presenting with a history of severe head injury and complaints of mnestic difficulties even years after the injury is more plausible.

When the head injury is caused by penetrating or crushing forces (e.g., a gunshot wound), the duration of anterograde amnesia is a less reliable guide to severity and prognosis. "With penetrating injuries due to missiles or with depressed skull fractures... Concussion and amnesia may then be brief or absent, yet focal cognitive deficits can be severe especially if haemorrhage or infection have occurred" (Lishman 1987, p. 157). These focal deficits include specific amnesias, such as auditory-verbal or visual-mnestic deficits, rather than global amnesia. Depending on the severity of the specific deficits, the degree of everyday impairment may vary from mild to incapacitating. In such clinical cases involving penetrating head wounds, there is no "natural course" of recovery against which to assess the genuineness of a patient's complaints.

Similarly, the residual effects on recall due to anoxia or exposure to neurochemicals (including prescription medications) are highly variable, they depend on such factors as the extent and duration of the anoxia and the toxicity and dosage of the neurochemical, and on patient variables such as age and sensitivity. In drowning cases, the extent of central nervous system damage, for example, is mediated by the victim's core body temperature during the period of anoxia. In cases of heavy metal poisoning (e.g., lead, mercury, manganese), solvent syndromes, and inhalation of chemically binding materials (e.g., "glue sniffing"), the cumulative dosage level is determinative of any residual effects of exposure along with individual characteristics. Dosage, individual sensitivity, and length of exposure to phenothiazines (e.g., "Haldol") are all critical in producing Parkinsonism, akathisia, and tardive dyskinesia. Global and specific, mild, and severe forms of amnesia may be found among survivors of anoxia or neurotoxicity.

Forensic Issues—Civil

Claimed memory problems are frequent in civil cases involving tort claims and eligibility claims. Motor vehicle accidents, assaults, industrial accidents, and sporting accidents are leading causes of head injuries, which frequently find their way into civil suits for negligence, into Social Security disability claims and into workers' compensation claims. Mnestic deficits are the most prevalent residual symptoms of head injuries and therefore figure prominently in civil claims. Weaver (2013) points out that the demands regarding understanding memory in civil litigation are often more daunting than in criminal cases. A further challenge, if such were possible, is untangling neuropsychological and psychological conditions that may contribute to amnesia syndromes and memory loss.

Currently, the difficulty of measuring pain and other mental conditions, as they may combine with memory loss, will likely remain a target of research for the foreseeable future. As stated by Bender and Rogers (2018):

Like depression and PTSD, pain can produce symptoms and deficits similar to those of mTBI [mild traumatic brain injury]. Pain is subjective and can be a method of expression psychological distress in patients who are not psychologically minded (e.g., patients with somatic symptom disorder).

Still valid today, Grimm and Bleiber, (1986, p. 500) observed that “In extreme cases, the injured person is forever bound to an extended present, with recollections of the past and anticipation of the future only fleetingly within awareness. In milder cases, where performance on experimental psychometric memory tasks falls within premorbid expectations, attention and memory difficulties may show as periodic absent-mindedness, especially when dealing with tasks that place a strain on these functions and that rarely can be simulated by conventional assessment procedures”

Nevertheless, as the section on detection strategies indicates, faked amnesia and loss of memory in civil settings and situations can be accurately measured within certain probabilistic limits.

Forensic Issues—Criminal

In criminal cases, claimed memory problems as reported in the second edition of this book are most likely to involve substance intoxication or psychiatric disorders. Guttmacher (1955) and Bradford and Smith (1979) reported that amnesia occurred in 30%–55% of homicide cases, a statistic that is generally true today (Bender & Rogers, 2014).

The classic criminal-forensic literature is still useful in understanding fakers of memory loss. Amnesia associated with violence-related mild closed head trauma is generally a short-term, partial, and recoverable phenomenon. Bradford and Smith (1979) found that 37% of their sample of 30 defendants arrested for homicide reported amnesia for a period of less than 30 minutes, with 60% claiming some sort of amnesia for less than 24 hours. They also found 44% of the defendants reported partial (patchy) amnesia, with sudden onset and cessation. This was the largest group, followed by those who claimed no amnesia (37%). Only 3% (one subject) reported a complete amnesic blackout for the entire time. Likewise, only one subject showed lack of complete recovery. Bradford and Smith (1979) concluded that malingered amnesia is most likely to be 30 minutes or less in duration.

Taylor and Kopelman (1984) reported no cases of amnesia associated with *non-violent crimes* in a sample of 212 men in custody for a variety of offenses. All of their amnesia cases had psychiatric disturbances with substance abuse and depression most frequent. Almost one half (41 out of 98) of young military male patients studied by Kiersch (1962) admitted that they had faked memory problems. These individuals were amnesic for a period of intoxication, but exaggerated the duration of the amnesia into times when they were sober. Psychogenic patients with exaggeration were also found in this study.

In a study of 105 males being held on murder charges, Parwatikar, Holcomb, and Menninger (1985) reported that those who faked amnesia may have been more sophisticated in terms of knowing the criminal justice system by having been arrested previously. Those murderers who admitted to responsibility and also claimed amnesia tended to be substance intoxicated at the time of the instant offense, and/or exhibited higher levels of hysteria, depression, and hypochondriasis on the Minnesota Multiphasic Personality Disorder (MMPI). Similar to the Kiersch (1962), subjects likely exaggerated the length of amnesia rather than fabricating its existence.

This tendency to exaggerate rather than make up a story of amnesia and loss of memory has held true for several hundred murderers examined by the senior author over the 30-year period from 1980 to 2010. This is one reason why defendants are repeatedly questioned on recalled events for the times before, during, and after the alleged offense, with their recollections compared to earlier versions and those presented to other forensic examiners who may have evaluated the defendant. Chunking, repeating portions of the alleged offense in reverse order, having the defendant state only what was heard or said, and having the defendant verbally report a version involving what was visually observed, were frequent useful strategies during these forensic evaluations to break up the commonly rigid and superficial faked version of the crime by the accused. Adding reliable and valid measures of deception almost always yielded a highly believable, cross-validated set of findings for the trier of fact (see Appendices for a comprehensive sample forensic report). The reports and expert testimony always included a recommended database of measures for replication by other experts, if the court so desired.

In forensic evaluation, after observing appearance and test behavior, a reported “feeling of knowing” may be scrutinized. In a review article, Schacter (1986) suggested that genuine versus faked recall in criminal cases can be distinguished by examining the accused’s behavior in general. For example, what was the defendant’s emotional state during the evaluation? Was the offense well prepared or impulsive? Secondly, the amnesia claim itself may help to identify malingered amnesia. Limited recall during the crime with a sharply defined onset and termination is suggestive of faked or exaggerated amnesia. A suspect’s “feeling of knowing” is defined as a “subjective conviction that one could retrieve or recognize an unrecalled item, event, or fact if one were given some useful hints or cues.” The examiner asks possible fakers of amnesia or loss of memory to rate their feeling of knowing that they could recall or recognize crime events if given assistance by being told true events that transpired during the period of memory loss. Fakers tend to discount the chance that their recall would improve. Feeling of knowing may also apply to loss of recall by eyewitnesses and victims of crime (Porter, Birt, Yuille, & Herve, 2001). The analysis of memory loss for eyewitnesses and victims should involve a trauma-based model, the evaluator gauging the level of post trauma by the victim and/or bystanders from the incident.

Thus, feigning memory problems is a fundamental concern for forensic professionals in both civil and criminal cases. The essentially private nature of the complaint of amnesia and the possible motive to malingering in legal situations encourage some persons to hide their intentional deception behind the variability and complexity of genuine amnesia. Distinguishing genuine from faked memory problems calls upon the best of psychological, neuropsychological, and forensic skills.

Research over the last two decades has continued to show that faked amnesia and loss of recall is a complex phenomenon, interacting with other subjective events, and often-times difficult to pinpoint in terms of diagnosis or condition (Bender & Rogers, 2018). Three points are relevant here in regard to forensic evaluation of possible faked memory problems: (1) for forensic evaluation of feigned memory loss, these findings suggest that a shift in focus from input and internal variables (e.g., medical conditions) to output factors (e.g., psychometric data and behavioral responses) may hold promise for a greater understanding of faking memory problems; (2) the general finding that a finding of malingering does not mean that there are no genuine symptoms or conditions reflecting loss of recall. This illustrates the often non-dichotomous nature of malingering (Bender & Rogers, 2018);

and (3) even if defendants or plaintiffs cannot actually recall relevant events it may not matter in terms of judicial outcome. Frederick (2018) stated in this regard for fitness to proceed in evaluations in criminal matters: “Laws vary among jurisdictions, but the general rule is that amnesia, despite the apparent serious challenge to assist counsel, does not automatically result in a conclusion by the court that the defendant is incompetent” (Frederick, DeMier, Smith, & Towers, 2014).

Targets

Any mnemonic deficit can be faked. This includes immediate, short-term, and long-term recall problems. Visual, auditory, olfactory, gustatory, or any other type or combination of types can be faked. Any event that occurred in a person’s life can be denied; faked recollection can be patchy and variable as memory supposedly returns in bits and pieces. Most often, targets are in accordance with the long range vested interests or ultimate goal of the faker. For example, in civil contexts, visual deficits may be faked in a person trying to seek compensation for partial blindness due to trauma. In criminal contexts, a person may target pseudo-epileptic seizures in order to obtain an not guilty by reason of insanity (NGRI) rather than go to prison, a brutal and dehumanizing place even in light security settings.

As targets, fakers tend to distort signs relevant to intended symptoms only to a certain degree in line with their strategies. This places the faker at a distinct disadvantage when multiple tests are used with high concurrent validity. Further, as we discussed, mild to moderate deficits appear to be faked more often than severe memory problems (e.g., dementia and global amnesia). The problem for the faker is lack of knowledge of the tests’ empirically derived base rates for each level of severity. Most likely, these types of targeted deficits are selected because of their difficulty in detection. As further examples, faking recall should be suspected if: (a) there is a complete loss of crystallized memory, which almost never happens even in brain-injured persons. Even a partial loss of crystallized knowledge is suspicious, especially when overlearned information such as that relating to identification is substantially distorted; (b) recognition is worse than recall, for example, for lists of words or for historical events; and (c) the person is exhibiting inconsistent organic or psychiatric signs (e.g., Diagnostic and Statistical Manual of Mental Disorders-5th Edition (DSM-5) conditions).

Almost always, targets are chosen in line with the faker’s assumptions about memory, as discussed above.

Response Styles

Most fakers show longer latencies in responding to recall questions (Bender & Rogers, 2018; Resnick, 1984). This may be because they are simultaneously performing two mental operations—becoming aware of, but stopping a correct response and presenting a falsehood. Many of the faking bad response styles that depend on memory tasks may be utilized by the malingerer. Faking partial deficits may include the following strategies: (a) fractional effort, (b) approximate answers, (c) distributing errors among correct answers, and (d) overall attempt to control error percentage. Fakers often make intentional mistakes early in the evaluation and may change response style (Hall & Shooter, 1989; Pankratz, 1988, 1998). As stated, the best lie is the partial truth; denial is a more effective strategy than fabrication or exaggeration.

Table 18.3 Qualitative Aspects of Malingered Memory Deficits

Malingers may experience any of the following:

1. Poor cooperation
 2. Increased aggravation
 3. Increased frustration
 4. Slow response times
 5. Frequent hesitations
 6. General confusion during testing
 7. Asking questions to be repeated
 8. Confusing directions during testing
 9. Pretending to forget what was asked
 10. Fake total amnesia for personal identity
 11. Fake total amnesia for past knowledge
 12. Fake total amnesia for family
 13. Fake total amnesia for friends
 14. Fake total amnesia for precipitant trauma
-

Source: Iverson, G. L., *Brain Injury*, 9, 35–40, 1995.

Detection Strategies

The qualitative aspects of malingered memory deficits should be considered in a FDA-5 evaluation. Iverson (1995) provides a variety of qualitative aspects of malingered memory deficits based on interviews generating self-reported strategies of 160 Ss. The Ss were from a variety of backgrounds including adult community volunteers, psychiatric inpatients, federal inmates who participated in analog malingering studies, and undergraduates. Bender and Rogers (2018) provide a variety of qualitative aspects of faked memory and other characteristics of faking in general. The findings regarding the qualitative characteristics of malingered memory deficits are summarized in [Table 18.3](#).

Wiggins and Brandt (1988) presented critical questions for which the probability of obtaining wrong answers by both non-simulating controls and amnesiacs with bona fide organic conditions approaches zero. Incorrect answers to these questions should be expected only among those with clinically severe retrograde amnesia and, even in those cases, performance might be improved by cueing, prompting, or presenting choices (McCarthy & Warrington, 1990, pp. 307–313). [Table 18.2](#) is relevant in this regard.

Recommended Measures of Faked Recall

For a review of traditional memory instruments and batteries, see Lezak (1995) and Lezak et al. (2012). Up until the twenty-first century, the efficacy of questionnaires to detect a variety of problems including malingered memory deficits has received mixed reviews. An example is a wide variety of commonly used memory questionnaires tapping historical information, trait-states, and cognitive problems from the testee's perspective (e.g., Adult Neuropsychological History; Wahler Physical Symptoms Inventory; and Mooney Problem Check List). These tests correlate only moderately with actual recall or other abilities and problems. A further problem is they typically have no built-in deception scales and are predicated on the notion that the subject will give his or her honest performance.

At best, these measures can be used in a parallel fashion on a test-retest basis so that change can be taken into consideration. Using this method, the faker may have difficulty repeating his or her own first (inferior) endorsements of problems. Responses from these questionnaires can also serve as hypotheses for further inquiry. Sometimes unusual or unknown information from the questionnaire can be utilized to generate further inquiries. Parallel testing should be utilized when possible, however, to emphasize this last point of searching for leads to faked memories. Repeat administrations of the same test or administration of a parallel form of a test should yield similar performances. The faker may not understand that a repeat of the test will be given and, therefore, may have difficulty replicating the previous performance. Faked scores in general are less stable than genuine scores (Rogers, Vitacco, & Kurus, 2010).

Another use of the same measure involves both the examinee and family members filling out the same form, but separately. This is especially valuable when evaluating substance abuse syndromes, psychopathy, and other conditions which have a negative connotation.

A caution involves the use of unreplicated measures of memory and other methodological problems, often with a small number of subjects. The authors may imply or state the findings generalize to all types of mental conditions including brain injury and psychological conditions where malingering may be an issue. Some of these investigations, even validation studies, have results based solely on the performance of normal dissimulators, usually undergraduates. It has become apparent that the detection of malingering loss of memory from actual brain trauma or relevant mental conditions must involve careful and selective use of assessment instruments, collaborative use of assessment instruments, and selective use of cut-off scores adjusted to brain injury and diagnostic type.

Dozens of stand-alone and imbedded methods and tests are currently available to assess faking brain injury and relevant psychological conditions, several of which have multiple indicators. Several of these which the authors have found particularly useful to assess faked memory problems follow:

Illusory Difficult Tasks and Tests

As a classic example, Rey (1964) devised the Rey-15 Memory Test specifically designed to detect feigned memory difficulties. The task consists of five rows of patterned stimuli (e.g., ABC, 123, abc), which give the impression of task complexity, but which are easily “clustered” into just five memory units. Lezak et al. (2012) and Goldberg and Miller (1986) suggested a cut-off score of nine recalled items was optimal for detecting suspicious mnesic performances. Bernard and Fowler (1990) suggested a cut-off score of eight, and Lee, Loring, and Martin (1992) suggested a cut-off score of seven. Clearly, the optimal cut-off score for detecting malingering will vary from population to population (e.g., demented patients, retarded patients, and naive Ss) (Flowers, Sheridan, & Shadbolt, 1996; Schretlen et al., 1991). Greiffenstein, Baker, and Gola (1996) observed that Rey’s measures appeared to be valid for assessment of cognitive malingering in situations where litigated disability claims were out of proportion to injury characteristics. They cautioned that Rey’s measures were not appropriate for globally and severely impaired patients in clinical settings. Overall, this test is an example of a commonly used faking test, a forensic “booby trap,” where actual simplicity is presented as complexity. There should be substantial caution

in using this test. Twenty years of studies (for a review, see Hart & Risley, 1995), mostly consisting of cut-off score refinements and adjustments, have indicated this test to be vulnerable to false positive findings. A relatively low sensitivity (47.7%) for malingerers was obtained, although confidence in correct identification was increased with very low scores (<5) and failure to recall at least three of the first six items (Martin, 2002). Specificity was also low for non-malingering pretrial patients (56.2%), while combined qualitative and quantitative methods for criminal malingerers was not more accurate than base rate prediction alone. For these reasons, it is recommended that forensic professionals use this test only with great caution even within a battery containing reliable and valid malingering devices.

The general idea behind using illusory difficult measures to detect faking, however, has promise if the base rates for responding are well-established on the tests employed and instructions are carefully formulated. This should be the subject of further research.

Symptom Validity Testing

Symptom Validity Testing, also called Explicit Alternative Testing (EAT) or forced-choice testing, the terms are used interchangeably, are powerful methods of assessing deception of deficits. Similar to illusory difficult measures, these tasks are so easy that even significantly impaired persons should perform satisfactorily. Departures from expected levels of performance may provide a measure of a conscious attempt to manipulate performance. They typically utilize the binominal theorem and, in most cases, measure faked sensory, cognitive, or memory deficits, plus a variety of other claimed neuropsychological deficits such as executive dysfunction (Grosz & Zimmerman, 1965; Hall, 2008; Hall & Shooter, 1989; Hall, Poirier, & Thompson, 2007; Pankratz 1979, 1983, 1988; Pankratz, Fausti, & Peed, 1975; Theodor & Mandelcorn, 1973). These studies involve the presentation of stimuli whose perception or recognition is either affirmed or denied by the assessee. An interference period may be added if recall, rather than sensory perception, is the target of evaluation.

The rationale of these studies, as stated, is that almost no one should miss the presented items unless a genuine and substantial impairment exists, or unless the person is faking impairment. In the case of a genuine dysfunction (e.g., blindness or deafness), one's performance should approximate chance responding (50% accuracy with two-choice tasks). A significant deviation from chance responding is defined as the accuracy score with a probability less than some specified level (e.g., $p < 0.05$ or $p < 0.01$), as determined by the binomial distribution. For example, the one-tailed binomial probability of obtaining less than 40 correct responses in 100 trials of a two-choice task is less than 2%. Achieving less than 36 correct answers would occur by chance less than twice in a thousand tests ($p \leq 0.0019$). Fakers usually assume that impaired performance requires less than 50% accuracy (see below). Persons genuinely impaired will usually guess randomly on force choice testing. Fakers do worse than chance because they intentionally suppress the correct answers on items to which they know the answers. Pankratz (1988, p. 185) explained the basic problem for the faker on a force choice task:

A 50% hit rate is expected from any patient who declares at the outset that he or she cannot perceive the test stimuli in a two-alternative procedure. The untruthful patient is in a dilemma when confronted with repeated trials. If he or she holds to the denial and tries to

manage the impression of a disability, then he or she runs the risk of revealing too much. On the other hand, if the deceptive patient properly identifies the cues, he or she openly admits that the deficit is not as severe as first claimed. In most clinical situations, deceptive patients “guess” wrong too frequently. Final results are often below the probabilities of chance. Even when the final score is within normal limits, the response pattern may be incompatible with the notion that the stimulus did not register at all.

One challenge with force choice methodology is that it may be too conservative for some persons, possibly yielding false negatives by failing to identify faking persons. By considering as “faked” only those performances which are significantly below chance levels of responding, the evaluator may incorrectly assume that the person is attempting to mimic a complete loss of the tested function. For example, a completely blind person or a totally deaf person would likely respond (randomly) with around 50% accuracy on a binary forced choice test. Performances significantly below this level would indicate an intentional underreporting of actual perceptions. Previous research showed that many subjects do not claim a total loss of function and therefore would not be expected to perform significantly below chance levels (Hall, 2008; Hart, Guilmette, & Elliott, 1991; Pritchard & Moses, 1992) and would represent a false negative if the feigners who claimed a partial loss of function scored above chance (Brandt et al., 1985; Haughton et al., 1979; Iverson et al., 1991). Another challenge is the likelihood of false positives when using multiple measures of deception or with the typically lowest level of significance $p \leq 0.05$ that is commonly accepted by the scientific community.

The forensic examiner is strongly encouraged by the recommendations in the literature to utilize force choice testing in a deception analysis. A typical neuropsychological battery has embedded force choice formats to which can be added stand-alone tests of deception. The examiner should be aware that when misprediction occurs when using multiple feigning measures, false positives may occur as the error rate accumulates.

In a triad of empirical studies, Hall and Shooter (1989), Shooter and Hall (1990), and Paulsen and Hall (1991), and reported upon in Hall and Thompson (2007) and Hall, Poirier, and Thompson (2007), the most common strategy used by the unsuccessful fakers was consistently choosing the incorrect response, accounting for 41% of the strategies named. The second most common strategy used by the unsuccessful fakers was giving occasional correct or incorrect responses (accounting for 20% of the strategies used), with attempting to forget being the third most common strategy. It was common for those employing a shift in strategy to switch from consistently choosing the incorrect answer to giving an occasional correct response. The successful faking group employed random responding most frequently (accounting for 28%). The second most frequent strategy was consistently using the same response (19%), which necessarily resulted in a total-%-correct of 50%. The third most frequent strategy was consistently choosing the incorrect response (16%), which necessarily involved a strategy shift at some point in order to produce a total-%-correct greater than 40%. Among those subjects who identified a shift in strategy during the test, 29% named adhering to one response as their first strategy, while 21% reported using random responding as their first strategy. Random responding was used 40% of the time as the second strategy.

Results from these EAT studies suggest that:

1. Forced choice, EAT, or symptom validity methodology is indeed promising. The hit rates of studies exceed other deception-detecting strategies, even when distinguishing “fakers” from severely impaired patients. Individuals with a high

stake in faking—such as defendants facing prison terms or plaintiffs standing to gain monetary compensation for damages—may be even more strongly motivated than volunteer subjects to fake successfully. This would then increase the power of the EAT technique when applied to clinical cases. Indeed, anecdotal examples from the authors' experiences confirm the success of EAT with the following clinical cases:

Case #1: A 45-year-old Filipino male charged with the murder of his wife claimed amnesia for the instant offense. No history of neurological problems was apparent. He presented severe short-term visual and auditory recall deficits on the Wechsler Memory Scale-IV and other testing. He obtained about 20% accurate responses on the EAT and later admitted to malingering his recall deficits when confronted with the results. He maintained partial amnesia for the homicide and was eventually found guilty of manslaughter rather than murder because the jury believed it was perpetrated in the classic "heat of passion."

Case #2: A Caucasian, right-handed, 23-year-old ex-stripper at a go-go club was stabbed in the neck by her boyfriend, creating a through-and-through puncture wound of the jugular vein and carotid artery. Residual signs included the Brown-Sequard syndrome, a right Horner's pupil, and an ataxic gait favoring the left. Neuropsychological testing several months after the trauma revealed normal functioning except on tasks requiring motor speed, coordination of upper extremities, manual dexterity, and sensitivity to stimulation. Recall abilities were above average for both short- and long-term memory. The victim later sued the nightclub for failure to protect her, claiming pervasive mental deficits stemming from the stabbing. Neuropsychological testing on the same battery 2 years afterwards revealed uniformly poor scores with an impairment index of 1.0, meaning 100% of her scores were in the impaired range. This was in striking contrast to her normal clinical appearance and lack of any event since the stabbing which would explain this deterioration. MMPI testing revealed a pronounced tendency to fake bad. On the EAT, 15% of her responses were accurate, strongly suggesting that she was feigning a visual memory deficit. She did not admit to faking, but was eventually awarded a reduced settlement upon negotiation with the (civil) defendant.

An interesting clinical application of forced choice is Kapurs (1994) "bedside" test for the detection of patients suspected of malingering memory disorders called the coin-in-hand test. This test can easily be adapted to EAT methodology. The clinician instructs the patient to observe and recall which hand holds a coin. The test is a simple series of ten trials in which the coin is alternated consecutively right to left. After exposing the coin for 2 seconds, supposedly adding to the difficulty of accurate recall, the patient is instructed to close their eyes and count backward for 10 seconds before responding with the answer. This adds a timed-delay interference procedure. Binominal probabilities can easily be calculated using any of the above three methods outlined in the Hall, Poirier, and Thompson (2007) article.

Hall and Thompson (2007) showed how to calculate in three different ways to derive binominal probabilities once EAT testing has been completed. These are: (1) use of a commonly accepted binominal formula for the probability of outcome, (2) simply looking up the binomial probability in a binomial distribution table, found in most

- introductory statistics books or available without charge by the U.S. Government Printing Office, and (3) using the Internet to search for “binominal probability calculator” or “binomial probability distribution” and calculating the probability for the number of questions asked versus number correct. All three methods should yield the same answer. If the computed probability is very small, usually equal to or less than 0.05 when examining only one-tailed p-values, then the probability is considered to be outside the range of random responding (guessing), and the person should be identified as “faking bad,” malingering, or showing suboptimal performance.
2. Results suggest that as few as three sets of 24 trials or even 50 total trials of EAT can be utilized with no loss of detection accuracy. EAT can be designed to be both accurate and economical.
 3. The use of successive sets of EAT trials, rather than just a total accuracy score based on all trials, appears to make EAT sensitive to fluctuating deception strategies. Fakers may perform poorly in the beginning of EAT testing and switch to honest responding after it is too late to hide their deception. Or subjects may attempt to fake bad after they have adapted to the test and decided on a strategy for deception.
 4. EAT may be uniquely adapted to detect deception in individual cases, as illustrated above. For criminal cases, this might involve information about an offense that only a perpetrator would know. As suggested by Hall and Shooter (1989), Hall and Thompson (2007), and Hall, Poirier and Thompson (2007), data bits—such as type of weapon utilized, injuries sustained by the victim, and clothing characteristics—could be presented to the suspect with instructions to affirm or deny recognition of them. A suspect with no knowledge of the instant crime should perform at approximately chance levels, while the perpetrator may be (statistically) placed at the scene of the crime.

Wechsler Scales

The Wechsler Adult Intelligence Scale—IV (WAIS-IV) and Wechsler Memory Scale-IV (WMS-IV) should be strongly considered in forensic neuropsychological and psychological evaluation of faked memory skills. The WAIS-IV, for example, especially when used with other measures of faking such as the Test of Memory Malingering (TOMM), has a variety of built-in validity measures to detect faking recall on and within both verbal and performance subtests (Bybee, 2016).

The WMS-IV, similar to the WAIS-IV, but focused on memory skills, has embedded performance validity tests which allow for the assessment of invalid performance. Soble, Bain, Bailey, Kirton, Marceaux, Critchfield, McCogy, and O’Rourke (2018) argued against the unqualified acceptance of single-subtest findings by evaluating the Logical Memory Recognition Score using the Advanced Clinical Solutions for the WAIS-IV/WMS-IV Effort System with 97 participants. They found poor concordance with Advanced Clinical Solutions validity base rates and unacceptable psychometric properties (42% sensitivity/79% specificity with 15%–39% participants having an invalid Advanced Clinical Solutions base rate despite having a normatively intact age-corrected Logical Memory Recognition Score). On the other hand, the WMS-IV detected suboptimal performance in 109 participants on Spatial Addition and Symbol Span, and on recognition tasks of Logical Memory,

Verbal Paired Associates, Designs, and Visual Reproduction with an overall classification rate of 78.4% (Bouman, Hendriks, Schmand, Kessels, & Aldenkamp, 2016). A scaled score of <4 produced 93% specificity and 52% sensitivity for detection of a suboptimal performance. Results suggest that multiple malingering tests and indicia be simultaneously used in the forensic evaluation of memory deficits, as fakers often produce partial deficits more believably. A person of average or better intelligence or memory may believe, for example, that producing a strongly suboptimal performance as represented by a WMS-IV/WAIS-IV scale scores less than 4 is not a credible performance, and hence produces deficits that may be 1–2 standard deviations (SDs) below their true level of intellectual or memory abilities.

Validity Indicator Profile

The Validity Indicator Profile (Frederick & Crosby, 2000) employs multiple detection strategies which reduce the chances that the examinee will know which test strategies are employed for particular items. The Validity Indicator Profile assesses feigning in verbal skills, visual-spatial skills, conceptualization, attention and memory, and breaks down the results into verbal and nonverbal dimensions. Most helpful is that valid and compliant responding is associated with very likely valid and compliant testing results on neuropsychological testing given concurrently.

Objective Psychological Testing

The MMPI-2 has been a mainstay of psychological test batteries and is commonly utilized in neuropsychological evaluation (Lezak et al., 2012). The MMPI-2 provides the neuropsychologist with valuable information about the testee's response state as well as noncognitive functioning to include behavioral, emotional, and psychiatric information. Particularly useful in forensic circumstances are the traditional and special MMPI-2 scales designed to indicate response bias and malingering. Lamb, Berry, Wetter, and Baer (1994) noted that the MMPI-2 is vulnerable to simulated closed head injury. This leads to the conclusion that MMPI-2 findings alone cannot be relied upon as the sole indicator of malingered head injury or memory deficits. This recommendation has held true up for the specially designed Response Bias Scale applied to the MMPI-2-RF as developed by Gervais, Ben-Porath, and Wygant (2007). The Response Bias Scale is empirically derived and can be viewed as effective in uncovering response bias because the items reflect overreporting of cognitive symptoms.

Summary

Feigned memory deficits are essentially private events, which require a multipronged detection strategy employed by the forensic evaluator. By way of summary for the detection of faked memory problems, [Table 18.4](#) presents an overview of the best signs for the detection of faked memory.

We offer several concluding observations based on recent studies of malingered memory deficits. The empirical ability to differentiate malingered amnesia from actual amnesia

Table 18.4 Suspicious Signs for Faked Memory Across Detection Methods

Consider faking of recall if any of the following occurs in combination:

1. Loss of crystallized memory with intact anterograde recall
 2. Recognition worse than recall
 3. Forced choice worse or better than chance on skill for which the assessee claims total impairment
 4. “Feeling of knowing” confidence low
 5. Misses on critical autobiographical items
 6. Increase in latency of verbal response to memory-related queries
 7. Memory skill levels significantly change upon parallel or repeat testing
 8. Confession of faked recall with recaptured memory
 9. Third parties report subject previously discussed the now “lost” memories
 10. Faking response style identified and can be reproduced upon retesting
-

and a thousand gradations of possibilities between these two poles has become increasingly sophisticated. We should not get overconfident, as even highly reliable and valid tests and methods do not automatically lead to expert opinions reflecting such findings. As we have seen with the chapter on civil law and deception, biased evaluators represent far more of a challenge to accuracy than measurement devices.

Another caution comes from the literature regarding domestic violence, a phenomenon of increasing occurrence in our society. It has been observed that domestic violence perpetrators don’t always remember assaulting family members. Following the violence, the perpetrators often have no recollection of their violent behavior, but accept full responsibility for it. Swihart, Yuille, and Porter (1999) described that these domestic incidents constitute “red outs,” in which there is amnesia for a violent crime carried out in a state of rage. Unlike stranger-to-stranger crime circumstances, domestic violent crime occurs in a context of powerful feelings between the perpetrator and victim. Malingering alone, alcohol intoxication/blackouts, or organic dysfunction cannot explain amnesia in these domestic situations. In the clinical/forensic arena, things may not always be what they initially appear to be.

An additional caveat concerns test security and online applications, most particularly in Symptom Validity Testing in response to claimed memory deficits. Coaching or direct access to websites describing test information about head injury and memory problems has been studied experimentally in research studies (Bauer & McCaffrey, 2005). In their Google review article, they found that coaching and direct access can and does affect both psychological and neuropsychological performance to differing degrees. Examining only the first 50 Google hits on these three tests, Bauer and McCaffrey (2005) reported that 12% of the links to articles or abstracts provided the cut-off score to the TOMM, 8% provided a sample report, how reaction time is recorded, and defined failure on the Victoria Symptom Validity Test (VSVT), and 12% of the websites for WMT made the claim that the test was impossible to fake. Keep in mind that in their study only three tests were considered—the TOMM, WMT, and VSVT. The authors of this book have reviewed a variety of research reports that revealed significant breaches in test security. This includes several websites that report the measures are sensitive to suboptimal performance, explain the format of the test, and explain how amnesic and severely memory-impaired individuals performed on the test.

As of the date of this writing (end of 2019), there appears to be no substantive steps taken to reduce these breaches in test security by any professional group or organization other than the American Psychological Association (APA). Despite most test developers

limiting access or purchasing of test materials to qualified professionals, information about particular tests can be obtained without much difficulty on the Internet or in published written material.

Forensic professionals can address these issues by the use of multiple indicators of feigning, requiring the examinee to switch faking strategies, and by other methods, thereby enabling the emergence of reliable, valid, and replicable findings. Hopefully, they do not know how the tests work or another layer of distortion and deception may be operative. The beauty of multiple tasks that require the testee to employ two (or more) detection strategies simultaneously on each measure requires him or her to reconcile two (or more) incompatible concepts in order to successfully deceive. For example, Bender and Rogers (2014) show that an attempt to focus on the easy versus difficult gradation of items while faking believable deficits may sacrifice response time, potentially another index of feigning. Other cautions and detection strategies are discussed in this chapter as well as the need for further research.

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For as much as sometye some personnes beinge accused of hyghe treasons, haue after they haue beene examined before the kinges majesties counsayle, confessed theyr offences of hyghe treason, and yet neuer the lesse after the doynge of theyr treasons, and examinations and confessions thereof, as is afore saide, haue fallen to madness or lunacye, wherby the condygne punyshmente of theyr treasons, were they never soo notable and detestable, hath ben deferred spared and delayed, and whether their madness or lunacye by them outwardly shewed, were of trouthe or falsely contrived and counterfayted, it is a thing almost impossible certainly to judge or try. Be it therefore enacted by authoritie of this present parliament to avoide al sinister counterfeit and false practices and ymaginations that may be used for excuse of punishment of high treasons, in suche cases where they be done or committed by any person or persons of good perfect and hole memory at the time of suche their offences....

—33 Henry VIII, c.xx (cited in Diamond, 1956)

Introduction

The above quote in Olde English dealing with the issues of lunacy and competency to stand trial was referenced in the earliest statute from English law in 1542 and occurred in the 33rd year of the reign of Henry VIII. The quote substantiates that the problem of malingered psychosis is not something exclusive to contemporary times.

Malingering is one form of deception or dissimulation. At the human level, most forms of deception are learned, intentional behaviors. As suggested in earlier chapters, some forms of deception (not malingering) can be accidental or serendipitous. In other situations, deception can be adaptive and motivated by perceived survival needs, or efforts to be socially graceful. Thus, examples of deception can extend from a simple developmental event, such as a child “exaggerating” a somatic complaint to avoid attending school, especially on days when tests may be scheduled. Other examples may include adult adaptive behavior, such as a homeless person stealing food and then “lying” that the item was misperceived as trash. In social situations, a choice can be made not to speak in a non-complimentary manner about someone, “you look really good for someone who has been hospitalized for six weeks.” This notion of deception in some circumstances being a form of “innocuous” human adaptation is a crucial concept, and as we will eventually address, can ultimately extend to the work of forensic clinicians.

In contrast, by its very nature, malingering is usually a sneaky, secretive, and obscure behavior and almost always of malevolent intent at some level. Rarely do malingerers acknowledge their fakery; when this happens, it's usually because malingerers perceive that sudden honesty will somehow achieve their originally intended goal or, as in the case of

criminal proceedings, the faker may perceive that honesty will somehow achieve a plea deal or mitigation (Halligan, Bass, & Oakley, 2006). In DSM-5, malingering is not a mental illness, and therefore it carries no formal diagnosis. DSM-5 lists malingering as a “V” code. A “V code” is a “condition that may be a focus of clinical attention.” Weiss and Van Dell (2017) contend that although not a DSM-5 psychiatric diagnosis, malingering is a medical diagnosis.

Establishing epidemiological data regarding malingering is a complex effort, and to date, the findings vary by specific circumstances of application (Mittenberg, Patton, Canyock, & Condit, 2002). Accurate estimates of the prevalence of malingered psychosis remain elusive (Mason, Cardell & Armstrong, 2013; Resnick, 2015; Rubenzer, 2018b; Singh, Avasthi, & Sandeep, 2007). Young (2015) estimated malingering rates of between 10% and 20% for mental health issues in both the legal and clinical contexts; the investigator suggested that malingering occurs with greatest frequency with traumatic brain injury claims. In the legal realm, estimates of malingering rates vary with the nature of the assessment (i.e., competency to stand trial, criminal responsibility, sentencing mitigation, etc.) and with the stage of legal process (i.e., pre-trial, mid-trial, post-trial, sentencing, etc.)

In the legal realm, assertions of malingered psychosis can present anywhere from the circumstances of troubled juvenile offenders, to parenting concerns in family legal matters, to criminal matters of horrendous consequence. Falsified psychosis can occur beginning with efforts to avoid intervention from investigative authorities by the culpable individuals. Once involved in the legal system, attempts of falsified psychosis can be employed to avoid, excuse, or mitigate judicial findings (Bradford & Goodman-Delahunty, 2008; Elhai et al., 2007). Faked psychosis can be utilized in efforts to substantiate lack of adjudicative competence or to establish lack of criminal responsibility. The turn of the current century has marked a tenacious wave of national and international terrorism events that have had a marked impact on civilian populations. These acts of terrorism have sparked new interest in the detection of deception in forensic matters.

By far, the most prevalent examples of malingering occur with disability claims. Some of these examples occur in the judicial setting as personal injury claims, which can involve extraordinary sums of financial compensation. The more common circumstances, however, occur in routine disability claims with the Social Security system and with the Veterans Administration. In a study of patients ($N = 500$) with chronic pain involved in compensation claims, investigators estimated malingering rates of 20%–50% (Greve, Ord, Bianchini, & Curtis, 2009). In the latter study, the authors noted that malingering rates varied with size of compensation, with the diagnostic criteria utilized, and with the methods of statistical analysis. Other variables associated with somewhat higher malingering rates included geographical jurisdiction and attorney representation. Another study estimated a malingering range of 45.8%–59.7% by adults involved in Social Security claims. This translated to a projected annual cost in excess of \$20 billion in medicolegal benefits to adult mental health claimants alone (Chafetz & Underhill, 2013). That is, these claims did not include adult claims for physical health issues or claims for children.

Definitions of disability are adapted and modified to accommodate the needs of the particular culture they are utilized by (Williams, 2015). Cultural definitions vary to accommodate cultural traditions, ethnic characteristics, religious beliefs, and even geographical conditions. The cultures of the homeless and underprivileged do not view successful malingering in the same way as cultures of means. Military forces are cultures unto themselves, and in the military, a label of malingering is onerous from a number of standpoints. A label of malingering in the military, whether administrative or clinical, can jeopardize promotion potential or even worse can be grounds for dismissal based on unfitness. Such a dismissal would likely be under less than honorable conditions. Based on a five-year review of Department of Defense database records regarding active duty personnel healthcare visits, Lande and Williams (2013) found the rate of labels of malingering to be “minuscule.” The latter data represent an example of our earlier comment regarding the slippery issue of collecting meaningful, and malingering epidemiological data.

The morphology of malingered psychosis claims in forensic matters varies according to circumstance and context: (1) faked psychosis may be more frequent in criminal matters and less frequent in civil contexts; (2) faked psychosis can vary in claimed severity with the same individual; (3) in addition to faking, the same individual may also have genuine, comorbid mental health diagnoses; (4) faking psychosis is encouraged by widespread dissemination of information regarding genuine psychosis symptoms. The latter contemplations also present in matters regarding the deinstitutionalization of patients in psychiatric inpatient facilities and in circumstances of judicial efforts regarding imprisonment of dangerous felons (Knoll, 2015). Over time, social media has increasingly made available vivid portrayals or actual documentaries of mental illness to the general public. The impact of social media portrayals has contributed to the already difficult challenge of detecting feigned psychosis.

In the case of psychological injury litigation (tort) matters, one estimate was that malinger was a factor in 10%–20% of cases (Young, 2015). In one frequently cited incidence study, Mittenberg, Patton, Canyock, and Condit (2002) cited a 19% rate of malingering or symptom exaggeration in criminal matters. The latter data were extracted from a survey of the membership of the American Board of Clinical Neuropsychology and based on data from 33,531 cases over a one-year timeframe. By comparison, some of the other malingering data rates were 39% for mild traumatic brain injury and 31% for chronic pain cases. Other findings were that estimated malingering rates did not vary by geographical region or by practice setting. Estimated malingering rates did vary by proportion of referrals by defense attorneys or insurers. With criminal cases, suspected malingering was higher with referrals from prosecution attorneys.

When forensic mental health assessment was in development beginning in the nineteenth century, the detection of malingered psychosis was a central concern. It was recognized in the nineteenth century that individuals who feigned psychosis could malingering cognitive impairment in addition to symptoms of affective dysfunction. Following a period of lull, there was a resurgence of interest in malingered psychosis in the 1980s. This coincided with the development of psychological instruments that assisted with systematizing findings in matters of suspected malingering. Specific neuropsychological tests had also been developed to elicit evidence of feigned cognitive impairment (Boone, 2007, 2011; Denny, Dunn, Shear,

Howe, & Ris, 2003; Garcia-Willingham, Bosch, Walls, & Berry, 2018; Heilbronner et al., 2009; Inman, 2002; Larrabee, 2012, 2017). These instruments were first utilized for head injury cases involving civil litigation (Lees-Haley, Iversen, Lange, Fox, & Allen, 2003).

Qualitative baseline differences between malingered and feigned psychosis have been extensively documented (Resnick, 1984, 1999, 2015). Genuine mental illness is a complex product of transgenerational genetic factors, developmental anomalies, unfolding life experiences including trauma and aging, as well as the impact of lifespan-determined neuropsychological changes and events. In contrast, feigned mental illness is the deliberate presentation of symptoms as motivated by intentional, external incentives. In some instances, the intended goals may not be immediately apparent to observers (Bond, 2008; Bond & DePaulo, 2008). The goals can be masked in layers of subterfuge and deception that may include co-conspirators. Among the most obvious forensic motivation for malingered psychosis is avoidance of criminal involvement or penalties. Other possible motivations run the gamut of human imagination. [Table 19.1](#) lists frequently encountered goals in matters of faked psychosis in forensic circumstances.

When defendants are malingering mental illness and the malingering is not identified, there is a broad impact on taxpayer resources. In the end, affected offenders are not meaningfully dealt with and justice is not served. Additionally, taxpayer resources, particularly mental health and correctional systems are unnecessarily burdened (Resnick & Knoll, 2018).

A multitude of contexts and circumstances can be associated with faked psychoses. Likewise, preexisting and comorbid mental illnesses can be present with malingered psychosis (Greene, 2008; Malone & Lange, 2007; Parks, Gfeller, Emmert, & Lammert, 2016; Resnick & Knoll, 2005; Resnick, 2015). In one early study, 12 initially diagnosed fakers were diagnosed with personality disorders (or features thereof) but, later, three of the subjects were identified as actually evidencing prior schizophrenic symptoms (Ritson &

Table 19.1 Variety of Intentional Goals in Forensic-related Feigned Psychosis

-
- Avoidance of legal involvement or consequences
 - Avoidance and/or delay of legal procedure timelines or dates
 - Placement in psychiatric facility as opposed to penal facility
 - Avoidance of military conscription
 - Avoidance of assignment to position of responsibility
 - Blue/white collar schemes to achieve financial gain
 - Schemes to be removed from untenable domestic circumstances (e.g., divorce, parental fitness, child custody, estate and other monetary settlement, etc.)
 - Avoidance of outrage or indignation by superiors, legal authorities, or clinical interventionists
 - Achieve transfers of perceived restrictive placement in penal facility or inpatient psychiatric facility
 - Parental intervention on behalf of juvenile court respondent(s)
 - Indigent/homeless attempting access to more favorable resources in sustenance and living circumstances
 - Justification to establish financial compensation from Workers' compensation, Social Security disability benefits, other federal and local social disability compensations, and Veterans Administration medical eligibility status
 - Efforts to obtain substances of abuse both legally and illegally
-

Forrest, 1970). Another study regarding factitious psychosis with hospitalized patients, determined that fakers of psychosis had poor clinical prognoses. Almost half of those patient's initially identified as malingering were rehospitalized within 4 to 7 years (Pope, Jonas & Jones, 1982).

One of the authors (JGP) was the clinical director of an outpatient substance abuse treatment program for young adults during the 1980s and early 1990s (Poirier, 1983a, 1983b). Forensic-related assessments were an ongoing aspect of the program. The program was a quagmire of examples of nondeliberate/deliberate distortion and outright malingering. Cited below as a case example is a program description.

Program case example: The two primary referral sources for the program were the local court system and a large state-sponsored, inpatient psychiatric facility. The young adult referrals were based primarily on histories of substance abuse. A majority of the court referrals included dual diagnoses of substance abuse and personality disorders. The state hospital referrals typically all involved formal dual diagnoses of substance abuse and psychotic disorders. Needless to say, incipient or active character disorder dynamics were an ongoing consideration for the entire patient group. The hospital referred young adults who generally had completed inpatient treatment stays from 6 to 24 months and were released on established schedules of neuroleptic medications.

The outpatient treatment modalities consisted of regular and carefully monitored urinalysis and intensive individual and outpatient peer group psychotherapy. Also provided was couples, family, and multiple family group psychotherapy. A group of contract psychologists and psychiatrists provided diagnostic assessment, psychotropic evaluation, and follow-up. On an annual basis, the program static capacity was from 60 to 75 young adult patients and an additional 40–50 family members. Annual dynamic capacity was approximately 525 combined young adults and family members.

Family history data regarding the young adult patients reflected family-genetic histories of schizophrenic diagnoses in approximately 55% of the families. These family history data, however, were questionable because of reliance on family member memory and family legend. Additionally, clinical documentation was complicated by the evolving changes in DSM diagnostic criteria. For the court referred young adults, approximately 35% had documented clinical histories involving psychotic symptoms. More than 90% of the young adults referred from the state hospital had documented histories of psychotic symptoms. Of those, approximately 55% were also court involved.

A notable issue was that a large number of the young adults from both populations with histories of psychotic symptoms professed street hallucinogen abuse as the precipitating factor to the psychotic symptoms. As a result, these patients voiced unwillingness to accept, probably more accurate, but also more pejorative diagnoses of psychosis. Of the young adult patients who were court involved, most had been arrested for minor offenses (misdemeanors), but a few were involved in serious felony matters. The treatment processes involved ongoing staff monitoring of deceptive and/or unreliable reporting by the young adult patients over the issues of legal involvement and mitigating psychotic process at the time of arrest and presently. As applicable, the case situations also had to be coordinated with the court systems. The systemic process of maintaining effective and trusting communication with the judicial system, the states attorney office, the office of the public defender, and the division of parole and probation is another entire chapter of information.

Behavior Targets

Feigned behaviors chosen at the time of forensic evaluation can include alterations in cognitive as well as affective behavior. Subjects can present with expected behaviors, as well as with withholding of expected responses. As with all faked conditions, the faker of psychosis attempts to modulate target behavior in order to accomplish their intended goals, while at the same time avoiding detection because of too outlandish symptom presentation. The faker of psychosis may present faked symptoms in documented accounts, only to repudiate the symptoms when interviewed.

The evaluator should be prepared for symptoms that present as “moving targets,” as well as a wide variation in response styles. Some fakers will suggest that any variability or inconsistency in their presentation is due to the purported mental illness that they are experiencing. Responses that the faker chooses will usually amount to efforts to render the subject blameless. For example, the faked effort could include suggestion of uncontrollable forces that are beyond the subject’s ability to control. Fakers of psychosis will often make an overt effort to direct attention to faked symptoms. [Table 19.2](#) outlines behavioral targets of faked psychosis. Other than qualities of frequency, intensity, and massed behavior, most of the outlined symptoms are not readily distinguishable from actual psychosis symptoms. [Table 19.2](#) presents an overview of potential faked symptom behaviors by modality.

Over time, fakers can adapt and acquire new and ever more novel presentations of feigning psychosis. Ongoing research with forensic subjects faking psychosis will undoubtedly continue to identify nuances and changing patterns of disingenuous psychosis. In general terms, however, malingerers of psychosis appear to exhibit patterned responses and can be detected by conformance, or not, to their own inner logic (Bash, 1978; Bash & Alpert, 1980; McCarthy-Jones & Resnick, 2014; Resnick, 2007). Increased specificity of response style is associated with less involvement of the faker’s own personality. Conversely, the more adaptive and widespread the malingering is to a variety of situations, the greater the likelihood that the faker’s own enduring personality traits and lifestyle are involved.

Table 19.2 Potential Targets of Faked Psychosis

Modality	Behavior
Sensory	Single modality vivid hallucinations; auditory command hallucinations; multiple modality hallucinations; strange illusions
Somatic	Complaints of external and internal body changes; complaints of physical disease processes
Imagery	Complaints of terrifying nightmares; uncontrollable flashbacks; recurrent aggression fantasies
Affect	Immobilizing fear; rapid inexplicable and extreme mood change(s); suicidal depression
Cognition	Delusional thought: somatic, persecutory, grandiosity, sexual and mixed; looseness of thought; diminished cognitive abilities compared to previously intact or higher-level mentation
Interpersonal	Inability to respond (mutism); atypical, unconventional styles of social interaction; rapid speech; non-sensical chatter; inappropriate inquiries (can be/pleading/threatening/aggressive/sexually-oriented)

As mentioned, an often overlooked aspect of faked psychosis is assessment of cognitive functioning (Chesterman, Terbeck, & Vaughan 2008; Glassmire et al., 2019). Fakers may not be aware of the clinical interplay between the more overt sensory and affective symptoms of psychosis and more subtle deficits in cognitive functioning. As applicable, assessments should include measures of current cognitive functioning that are compared to prior levels of cognitive functioning as reflected in the subject's clinical history (e.g., prior cognitive testing, academic records, vocational history, and notable achievements) (Pirelli, Otto, & Estoup 2016).

Response Styles

Malingers tend to over endorse clinical symptoms when compared with normals and when compared with individuals with bona fide mental health diagnoses (Bagby et al., 1997; Wetter, Baer, Berry, Robison, & Sumptor, 1993; Resnick, 2007). Malingering can be combined with truth, deceit, and defensiveness. For example, a faker may deny symptoms having occurred prior to military service, but subsequently assert severe symptoms during or after military service in an effort to be relieved of hazardous assignments or to be released from active duty (Lande & Williams, 2013). Termination from conscripted service will often include pre-planning and a subsequent effort to obtain Veterans Administration disability status. The evaluator must also be aware that clients may deny genuine psychosis for a number of reasons. One example would be to preserve any wholesome ego functioning as perceived by the actor. Diamond (1956) speculated that simulating sanity occurs frequently and encouraged clinicians to investigate simulated sanity actively, instead of waiting for the client to inadvertently reveal select symptoms of psychosis.

Even severely maladjusted individuals can fake bad or good, depending on their vested interests and opportunities for deception. Braginsky and Braginsky (1967) described a study of 30 long-term schizophrenics. The subjects could convincingly present themselves as "sick" or "healthy," depending on their goals in a given situation. For example, a sickly presentation could spontaneously occur when subjects were faced with discharge, while "healthy" presentation would be evidenced when their privileges were challenged. Three experienced staff members blindly reviewed tapes of interviews with patients. The staff members were erroneously convinced by the patients intended "sickly" or "healthy" presentations. The importance of assessing for all response styles, even among persons with well-documented histories of psychopathology, is the prudent course.

A standing question is whether certain diagnostic categories have comorbidity with malingering efforts. Lewis and Bard (1991) described the comorbid relationship of multiple personality disorder in a variety of forensic circumstances and cited similarities between multiple personality disorder symptoms and symptoms of anti-social personality disorders. Osran and Weinberger (1994) described the prevalent role of personality disorder in criminal responsibility defenses. The relationship of psychopathy and malingering continues as a questionable comorbidity with arguments pro and con (Kucharski, Duncan, Egan, & Falkenbach, 2006; Pierson, Rosenfeld, Green, & Belfi, 2011). Patients with established diagnoses of borderline personality disorder are known for being adept at selectively and dramatically presenting with psychotic symptomatology (Boone, 2011; Morgan & Zimmerman, 2014).

Table 19.3 Clinical Indicators for Assisting with Detecting Faked Psychosis

Indicators of Simulation	Relevant Simulator Issue
1. Overplaying of psychosis symptoms	Attempting to behave according to self-stylized view of psychosis
2. Calling attention to symptoms	Not typical in actual psychosis
3. Clumsy imitation of form and style of psychosis	Will often focus on (mis)understood content of psychosis
4. Doesn't fit actual diagnostic criteria	Presentation not consistent with DSM-V inclusionary and exclusionary criteria
5. Sudden, abrupt onset and termination	Unaware that symptoms usually develop and remit over time
6. Unlikely conformity to psychotic content	Discrepancy between psychotic content and behavior
7. Far-fetched, unlikely account/explanation	Often observed with naive simulators
8. Explanations of misbehavior including criminal behavior unlikely and contradictory	Misrepresentation due to faking wide range of information
9. Complaints of specific areas of cognitive	May be atypical of usual presentation in early psychosis; check with standard cognitive instruments; check against prior history
10. Delusional content complaints	Behavior doesn't conform to delusional content

Detection Strategies

Understanding the phenomenology of genuine psychosis enhances the clinician's skill in detecting fake symptoms (Pollock, 1998; Schlesinger, 1996). Resnick (2007, 2015) described the analysis of baseline symptoms as a technique for detecting malingered psychosis. Resnick's approach is based on known clinical presentation patterns and prevalence rates of actual psychotic symptomatology.

A synopsis of clinical indicators for suspecting faked psychosis are summarized in [Table 19.3](#). The presence of any such indicators should prompt further assessment to include additional effort to access clinical history ([Table 19.3](#)).

Psychometric Approaches to Faked Psychosis

The concepts of assessment in forensic mental health matters have evolved slowly over the past several decades. These concepts are now formalized under the heading of forensic mental health assessment (Heilbrun, Grisso, Goldstein, & Laduke, 2012). Many of the forensic mental health assessment principles have been incorporated into the chapters of this book; the reader is encouraged to be versed with the principles espoused in forensic mental health assessment.

For several decades, researchers have pursued dependable psychometric measures of malingered psychosis (Heinze, 2003). That effort continues to the present, but there is still no single, or composite, psychometric litmus test of malingered psychosis. There may be

instruments that are reasonably dependable in one specific forensic application, but less effective in another. Forensic evaluators can become quite experienced with a psychometric instrument or psychometric battery. Such experience can enable the experienced clinician to acquire facility to yield data far beyond what simple scores or patterns of scores may convey. For example, an evaluator can work in a specific clinical setting with populations having specific demographics. Experiential data from this circumstance combined with empirical test findings can provide highly enriched data for the experienced clinician leading to consistently penetrating clinical determinations. In this circumscribed situation, the evaluator learns what range of test data findings are commonplace and data that are not typical. This is invaluable information regarding the likelihood of malingering and the particular nuances of malingering in specific circumstances. An analogous situation could be that of a medical researcher in a given setting evaluating experimental cancer or perhaps Alzheimer's treatment medications. The range of response possibilities is narrowed by the circumstances and the clinician can become unusually adept with outcome estimates.

Case study—Mr. M.: One of the authors (JGP) participated in a weeklong training seminar presented by the staff of a state forensic hospital. The author was one of a number of clinicians (psychologists, psychiatrists, social workers, and other ancillary staff) who served as community screeners of court referrals for competency to stand trial and for evaluation of criminal responsibility. The screening assessments were conducted on an outpatient basis. The majority of cases screened determined that the pleas had no clinical merit and typically these matters returned back to the court (usually within 7 days) for further disposition. If there was any question about the referral issue, the cases were referred to the hospital for further inpatient assessment. The training included videotaped segments of inpatients undergoing evaluation. We note that the training activity was conducted according to ethical parameters regarding confidentiality and the nuances of forensic circumstances.

One of the video segments regarded a Mr. M, who was a 57-year-old, African American gentleman. Mr. M. had been arrested on illicit drug charges in a high crime area of a major city. The initial video segment portrayed Mr. M on a hospital ward behaving erratically, ranting loudly about a miniature radio transmitter being secretly implanted in a tooth during a recent dental procedure. The dental procedure had preceded Mr. M's arrest by approximately a month. The training participants were able to review a copy of the dental records which reflected a recent major dental surgery performed under general anesthesia. Mr. M was arrested during a subsequent sting operation focusing on a well-organized gang involved in an extensive heroin street-sales operation. The sting operation involved local and federal charges for alleged murder offenses across multiple state lines. The defendants defense attorneys had filed competency to stand trial and criminal responsibility pleas on Mr. M's behalf.

Mr. M was identified as a key figure in the gang leadership. Mr. M was charged with possession of a deadly weapon, assault and battery, possession of multiple illicit substances with intent to sell, and attempted murder. The murder charges involved individuals who had procured illicit substances but had not followed through with promised payments. The police report cited that the gang pursued the victims who were responsible for nonpayment in an acknowledged effort to enforce outstanding payments, but more importantly to spread fear of the gang's resolve about being compensated for sales of illicit substances.

Mr. M maintained that all of his behavior was at the demands of mixed gender voices instructing him through the implanted electronic device. In the videotaped segments, Mr.

M could be observed explaining to staff and fellow patients his experience of command hallucinations that in turn resulted in his involvement in illicit activity. Of note were Mr. M's apparent sincerity and his persistent, intense explanations of his circumstances. In addition to usual clinical interviews by a number of clinicians, a lengthy battery of psychological instruments were administered over several days. Video segments from non-hidden cameras mounted throughout the facility monitored patient 24-hour activity in a variety of hospital settings.

A poll was taken from the training participants regarding the videotaped segments of patient activity in the hospital setting. The segments present pixelated video examples of seriously disturbed individuals who had been charged with major crimes and deemed sufficiently a threat to warrant hospitalization. The training participants varied widely in opinions regarding Mr. M's veracity, but there was majority agreement that he was indeed psychotic. Subsequently, the training staff provided further video segments in which Mr. M confessed that he was feigning psychosis.

Follow-up video segments revealed an apparently quite competent Mr. M participating in afterhours hospital activities. There was a notable absence of any psychoticisms, and Mr. M appeared to enjoy his interactions with fellow patients; the fellow patients also appeared to enjoy interacting with an affable Mr. M. Also offered were segments of Mr. M in follow-up clinical interviews. Mr. M acknowledged his charade of feigned psychosis. He explained that his ruse began during the first few days of admission to the hospital and his observations of fellow patients engaging in psychotic behavior.

In later discussion, hospital staff pointed out the lack of any prior documentation of psychosis with Mr. M. Also, Mr. M had a position of rank within the gang that was unlikely if his behavior were untoward. Additionally, his assertion of an electronic implant and the suddenness of symptoms were suggestive of feigned symptoms. Mr. M acknowledged that his ruse was motivated by the nature of his charges and the potential of serious consequences which had become increasingly evident to him during pretrial proceedings. He finally acknowledged his deception when he was confronted by clinicians. He recognized the inconsistencies of his performance on the psychological testing and in his videotaped activities. He realized that his malingering had been evident to staff and would be disclosed to the court. He wanted to avoid any further embarrassment and he wanted to pursue a course that would most rapidly return him to the community. His attorneys had advised him of the likely extended period of confinement as a patient in the event his malingering was not brought to light.

The case example of Mr. M highlights one value of the use of objective data in the forensic assessment of possible malingering. Mr. M and his attorneys considered the findings of psychological testing as impinging tellingly on his feigned psychosis. The battery of test findings contributed to Mr. M's decision to acknowledge his attempted deception.

Psychometric Instruments for the Detection of Feigned Psychosis

As we begin this next section citing specific psychological test instruments useful for assessing feigned psychosis, it is important to emphasize the limitations of the predictive value of all test instruments, particularly when applied to forensic issues. Most psychological instruments begin with hypothetical assumptions regarding a problem behavior or diagnosis. Researchers then construct test items designed to test those assumptions

and statistically derive predictive quotients. Those quotient values are then applied to particular clinical or more specifically forensic questions. In every instance, there are extrapolations that compromise the outcome findings of an instrument. Triers of fact are generally not versed in these considerations, and it is the forensic expert witness's challenge to frame findings in a manner appropriately incorporating test/instrument limitations, while at the same time not diluting information that relegates testimony to be meaningless.

Cited below are an array of psychometric instruments that have been described in current literature as forensic assessment tools useful in assessing for malingered psychosis. One notable category area of omission of psychometric instruments in this edition is the use of projective tests (e.g., Rorschach; Thematic Apperception Test, etc.). In the forensic realm, projective tests simply have not fared well in terms of reliability or validity to empirical criteria (Albert, Fox, & Kahn, 1980; Kleiger, 2017; McLaughlin & Kan, 2014; Seamons, Howell, Carlisle, & Roe, 1981). The judiciary and trial attorneys have become quite aware of this Achilles vulnerability of projective techniques.

The cited instruments are a sample array of a litany of psychological instruments that have been historically available (Larrabee, Rohling, & Meyers, 2019). Many instruments have been proffered, but over time, many have fallen by the wayside usually because of questionable validity. One issue with such instruments is their complexity and length of time for administration. Other issues include the applicability of the instrument to the forensic population in question and standardization relevance to the evaluation setting (e.g., pretrial detention center, outpatient facility, courthouse, hospital, or correctional center). We will review three categories of psychometric techniques: (1) traditional psychometric applications, (2) screening instruments, and (3) forced choice symptom validity tests (SVT).

Traditional Instruments for Assessing Malingered Psychosis

MMPI (Minnesota Multiphasic Personality Instrument). The MMPI remains a mainstay psychological instrument. It is widely used, available, and standardized in a number of languages. It is widely accepted by the courts as a valid instrument (Pope, Butcher, & Seelen, 2000). The MMPI has undergone a number of iterations since it was first published by the University of Minnesota Press in 1943. The instrument has a number of embedded subscales that are designed to measure feigning of symptoms, inconsistent, and invalid reporting. A large field of literature on the MMPI suggests that normals who fake psychosis, and psychotics who feign normalcy or exaggerate their disorder, can be identified with some degree of accuracy (Ben-Porath, 2012; Butcher, 1990; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989; Heilbrun, Bennett, White, & Kelly, 1990).

PAI (Personality Assessment Inventory) (Morey, 1997; Hopwood, Morey, Rogers, & Sewell, 2007). The PAI was developed by Leslie Morey. It is a self-report 344-item personality test that assesses a respondent's personality and psychopathology. Each item is a statement about the respondent that the respondent rates with a 4-point scale (1-"Not true at all," "False," 2-"Slightly true," 3-"Mainly true," and 4-"Very true"). It is used in various contexts, including psychotherapy, crisis/evaluation, forensic, personnel selection, pain/medical, and child custody assessment. The test construction strategy for the PAI was primarily deductive and rational. It has shown good convergent validity with other personality tests, such as the MMPI.

MCMI (Millon Clinical Multiaxial Inventory)—Fourth Edition (Millon, Grossman, & Millon, 2015.) The personality instrument based on Millon's evolutionary personality theory. Self-administering, true/false format with an administration time of about 30–40 minutes. The MCMI was designed to provide data regarding personality traits and general psychopathology. The test is designed around several categories: Personality Patterns; Clinical Syndromes; Validity Scales; Modifying Indices; Random Response Indicators; and Grossman Personality Facet Scales. The instrument's design has specific limitations and clinicians should adhere to the intended usage.

SIR/SIR2 (Structured Interview of Reported Symptoms) (Rogers, 1992) and (Structured Interview of Reported Symptoms-2) (Rogers, Sewell, & Gillard, 2010). A structured interview format requires approximately 45 minutes to administer. Based on a number of empirically validated criteria for detecting malingering, SIR is intended for the identification of unreliable or inconsistent presentations during clinical interviews.

Rogers' approach to structured interviewing has demonstrated impressive discriminant and concurrent validity across a number of follow-up studies and with a number of laboratory and clinical populations (Rogers, Gillis, & Bagby, 1990; Rogers, Gillis, Bagby, & Monteiro, 1991; Rogers, Gillis, Dickens, & Bagby, 1991; Rogers, Kropp, Bagby, & Dickens, 1992). Two drawbacks with the SIR are that it must be administered individually by a trained evaluator, and its administration time is approximately 45 to 60 minutes.

Screening Instruments for Detecting Malingered Psychosis

One answer to the length of administration time of the instruments cited above are screening instruments. It should be noted, however, that the usual recommendation is that screening instruments be utilized as brief front-end measures to supplement the usual administration of full test batteries. Smith (2018) chronicled the histories of a number of screening instruments for the forensic assessment of malingering. Selected examples of these screening instruments are listed below.

M Test: A screening instrument for assessing malingering of schizophrenia developed by Beaber, Marston, Michelli, and Mills (1985). The M Test is a 33 item, self-report, true/false scale. It consists of three scales: (1) Confusion (C) scale where subjects are expected to respond in a particular way (e.g., "I believe that cancer is a horrible disease"); (2) Schizophrenia (S) scale where items reflect DSM III-R associated features of schizophrenia (e.g., "Periodically, I am bothered by hearing voices that no one else hears"); and (3) Malingering (M) scale or indicators of malingered schizophrenia.

M-FAST (Miller Forensic Assessment of Symptoms Test, Jackson, Rogers, & Sewell, 2005; Miller, 2001, 2004): A screening measure for the detection of feigned, or malingered, mental illness. According to the author, an initial research effort with the instrument yielded better classification accuracy of malingered mental illness compared to the M Test and compared to results of clinical interviewing.

SIMS (Structured Inventory of Malingered Symptomatology, Smith & Burger, 1997): One of the most widely used SVT instruments by neuropsychologists (Merten et al., 2016). The authors of the instrument conducted a literature review

and proposed five indices indicative of symptom exaggeration. The SIMS appears to be a promising brief measure for identifying the exaggeration of symptoms (e.g., Jelicic, Gaal, & Peters, 2013; Smith & Burger, 1997).

Psychosis Malingering—Symptom Validity Testing

SVT is also called Explicit Alternative Testing (EAT) or forced choice testing. Essentially SVT's apply statistical probability analysis to the scoring on forced choice testing of sensory or cognitive functioning. The essential concept is that when faced with choices over a series of trials, even with guesses, examinees will achieve at a level of chance. For example, over a series of 100 trials, the chance expectation would be 50 trials correct, 50 trials wrong; actual scores are then subjected to probability curves for likelihoods of accurate responding or deliberate mis-responding, with the latter finding indicating deception. Test scores are rated at high confidence intervals (usually well above 90th percentile).

The concept of a SVT response is preferred over the label of malingering because poor or inconsistent performance can occur for reasons other than the intentionality of malingering. That is, there can be genuine neuropsychological or mental health deficits rendering poor performance. Neuropsychologists recognized the need to routinely assess for the potential of malingering of symptoms or compromised motivation in neuropsychological evaluations as early as the 1960s. By the mid-1980s, neuropsychologists incorporated symptom validity testing as an essential aspect of neuropsychological assessment. This effort by neuropsychology has been amply documented (Axelrod & Schutte, 2011; Martin, Schroeder, & Odland, 2015) and has involved a number of forced choice instruments. Some of these instruments are relevant to our forensic quest regarding detection of malingered psychosis. SVTs are generally cited in two subtypes: Performance Validity Tests, which are designed to detect underperformance and Self-report Validity Tests, which by self-report assess endorsement of indiscriminate symptoms (Merten, Merckelbach, Giger, & Stevens, 2016). The combined two subtypes are generally referred to as SVTs.

VSVT (Victoria Symptom Validity Test; Slick, Hopp, Strauss, & Spellacy, 1996).

Intended to measure the level of test taking effort exerted by subjects during psychological or neuropsychological evaluations, or a combination of both.

EAT (Schretlen et al., 1992) used a two-alternative forced choice format for vocabulary and abstraction subtests of their malingering scale. This permitted them to examine how many of their subjects scored significantly below chance based on the binomial distribution. Since scoring correct on fewer than 18 of the 46 items on these two subtests would occur by chance with $p < 0.05$, they examined how many of their faking and non-faking subjects scored below this cut-off. Of the faking subjects, 26% scored below 18%, and 100% of the non-faking subjects scored above 18. Thus, this paper-and-pencil application of EAT showed results comparable with other applications of SVTs; when a person performs below chance level, the likelihood of faking should be one consideration.

TOMM (The Test of Memory Malingering, Powell, Gfeller, Hendricks, & Sharland, 2004; Tombaugh, 2012). Intended for ages 16 and older. A 50-question visual

memory recognition test that discriminates between true memory impairment and malingering, with two learning trials and an optional retention trial following a delay.

SRSI (The Self-Report Symptom Inventory, Merten, Merckelbach, Giger, & Stevens, 2016). According to the authors, self-report SVT instruments are recognized by test takers as symptom validity inquiries, thereby limiting their effectiveness. These instruments propose inquiries that are contradictory and implausible and can be recognized as obvious validity measures by discerning test takers. To correct this issue, the authors developed the SRSI. The SRSI combines scales consisting of genuine and pseudosymptom items. The SRSI correlated well with SIMS.

MSVT (Medical Symptom Validity Test) (Green, 2003, 2004). Software designed to assess if the effort on neuropsychological tests is adequate to produce valid results. A verbal memory screen with built-in effort measures; automated 5-minute administration and computerized scoring.

Psychosis Malingering and Neuroimaging Studies

A relatively new and still early emerging area of the study of psychosis are neural imaging studies (Gamer & Ambach, 2014; Ganis, 2014; Meijer, Verschuere, Gamer, Merckelbach, & Ben-Shakhar, 2016; Tomyshev, Lebedeva, Akhadov, Omelchenko, Rumyantsev, & Kaleda, 2019; Zmigrod, Garrison, Carr, & Simons, 2016). This research is still preliminary and will require years of continued empirical development to consistently meet rules of evidence admissibility as required by the courts (e.g., Frye and Daubert).

Interest in the value of neuroimaging as a tool in the detection of deception was stimulated in part by the 2001 September 11 terror attack in the United States and subsequent military operations in Afghanistan and Iraq. An increasing number of neuroscientists have begun exploring whether empirical measurements of brain functions can help to detect deception. An associated development was contemporary neuroimaging techniques becoming more accessible. These techniques include positron emission tomography, functional magnetic resonance imaging (fMRI), diffusion-weighted MRI, and surface-based morphometry.

The anterior cingulate cortex (ACC) of the brain's limbic system has long been recognized as playing a central role in a number of human behaviors including autonomic functions and cognitive and emotional activity. It is involved in numerous higher-level activities to include decision-making, impulse control, ethics, and morality (Botvinick, 2007; Cassaday, 2017). The ACC is located at the middle of the frontal lobes of the brain. It is in front of the corpus callosum, which contains neural connective fibers between the left and right hemispheres of the brain (Stevens, Hurley, & Taber, 2011).

Early ACC research involved the study of patients with tumors or lesions in the affected areas. The ACC was identified as having a central role in emotional regulation. Lesions in this area of the brain resulted in a wide range of emotional dysfunction including anxiety, depression, and obsessive-compulsive behavior. Devinsky, Morrell, and Vogt (1995) identified disruptions in social behavior with lesions in this brain area to include "psychopathic" behavior. More recent research has involved mapping of the ACC with structural fMRI (Cassaday, 2017).

One recent study (Braem, King, Korb, Krebs, Notebaert, & Egner, 2017) measured ACC activation as measured by fMRI imaging. Subjects (Ss) viewed pictures of human and animal images designed to experimentally produce positive or negative appeal to the viewer. That is, a display of positive images (displays of positive human or animal experience) versus display of negative images (displays of negative human or animal experience). Negative appeal imagery was considered aversive, incongruent, and conflict-inducing. Positive imagery was appealing and congruent. ACC activation was enhanced by negative stimuli presented after positive stimuli presentation.

Tomyshev et al. (2019) compared neuroimaging findings of 30 healthy young males and 30 young males deemed at high risk for psychosis based in part on prior clinical history of prodromal symptoms. All 60 Ss completed a series of complex neuroimaging exams (diffusion-weighted and T1-weighted MRIs). The researchers found microstructure abnormalities in cortical white matter and cortical anatomical changes in the high-risk group. It was hypothesized that reported neurocognitive and social functioning deficits (i.e., positive psychosis symptoms) in the high-risk group were attributable to myelin pathology and a reduction in the usual cortical thickening in the frontal, parietal, and temporal cortices. The latter findings affect cortical nerve networks responsible for processing streams of information both externally and internally.

In a study investigating the neural substrates of dishonesty as a component of psychopathy, Abe, Greene, and Kiehl (2018) utilized fMRI with a sample of incarcerated Ss ($N = 67$). The effort was directed at testing the hypothesis that psychopathic individuals would evidence reduced ACC activity when placed in an experimentally designed situation of dishonest gain. The findings were that higher psychopathy scores (as determined by Psychopathy Checklist-Revised (PCL-R) scores; Hare 2003), reflected lower ACC activity with experimentally induced dishonesty. The authors noted the functional interaction between the left ACC and the left dorsal lateral prefrontal cortex (Miller & Cohen, 2001) and hypothesized that the mediating control function of these networked, prefrontal cortical areas exerted a role in the findings.

Another study utilizing fMRI neural imaging compared men with violent behavior histories (Kumari et al., 2014). The Ss ($N = 53$) included 14 healthy controls with no violence histories; 13 with schizophrenia, and violence histories, but not with comorbid anti-social personality disorder diagnoses; 13 schizophrenics without violent histories; and 13 with anti-social personality disorder diagnoses and histories of serious violence. The design involved exposure to “safe” and “fear of electric shock” conditions. The 30 experimental Ss were exposed to a sample, mild, preelectric shock designed to engender fear anticipation. No actual shocks were administered during the MRI scanning sequence. The mild sample shock was intended to serve as a stimulus engendering fear anticipation. Appropriate ethical considerations were followed, to include prior written consents from each of the Ss.

The findings pertinent to the interests of this chapter of the book included the schizophrenic with violent histories group demonstrating the highest levels of shock anticipation and the anti-social with violent histories group the lowest levels. The control group demonstrated intermediate levels. The combined Ss with violent histories demonstrated fMRI modulation in the occipital and temporal cortical areas secondary to sustained visual threat cues. Additionally, the schizophrenic with violent history group demonstrated enhanced thalamic-striatal activity to the threat cues, while the psychopathic group had attenuated response. The researchers hypothesized that the latter finding was indicative of different response styles in coping with circumstances of violence potential and, if nothing

else, demonstrated that the two clinical groups require different therapeutic management in efforts to help each group manage violence circumstances.

With respect to forensic analysis of deceptive behavior, these data demonstrate minimal, currently useful information. The baseline imaging data, however, reflecting unique, cortical differences between normal and dysfunctional (i.e., normal, psychotic, and psychopathic) brains may portend future developments. Further advances may provide useful diagnostic comparison of neuroimaging profiles differentiating clinically documented malingerers from non-malingerers (Vallabhajosula & Vallabhajosula, 2015). Eventually, such data are likely to rise to the level of meeting criteria of court admissibility. Accordingly, forensic evaluators are encouraged to remain attuned to neuroimaging advances. The future forensic prospects in this regard are fascinating, as they are promising.

Synthesis

Available research suggests that the following may indicate manufactured or exaggerated psychosis:

1. Production of psychotic symptoms can be under voluntary control and is understandable in terms of perceived payoff
2. Feigned psychotic symptoms generally worsen when being observed or when being interviewed. Symptoms are bizarre for the circumstances and involve quick shifts to non-psychotic behavior when not being observed. Symptoms also cease or diminish with distracting mild environmental stimulation
3. Patient has established history of faked mental problems
4. Patient admits to faking psychosis and such behavior can be explained in terms of environmental events
5. Patient uses an alias, is unwilling to allow access to old records, displays evidence of significant personality disorder, has a history of substance abuse, to include possession of paraphernalia, etc., which alternatively or collaterally explains professed or displayed psychotic symptoms
6. Laboratory testing (of medical status issues) suggests malingering (e.g., as a factitious disorder)
7. Psychological testing is consistent with deception in regard to psychosis
8. Patient has rapid remission of symptoms with no explanatory intervention
9. Crime is associated with accomplices; crime fits into history of defendant's criminal activity; defendant has non-psychotic motives for involvement in the criminal behavior
10. Evaluators are encouraged to keep up to date with evolving neuroimaging developments regarding detection of deception and malingering

There are caveats for forensic clinicians who conduct evaluation of suspected malingered psychosis. As noted in this chapter, positive psychometric indicators of malingering do not necessarily rule out the presence of a comorbid psychiatric disorder including characterological features, associated physical health issues, medical substance abuse, or collateral psychopathology. Any malingering assessment requires careful analysis by the clinician and an appreciation of all possibilities of clinical presentation.

Neuropsychologists are confronted with particular problems with patients who may be malingering (see [Chapter 11](#)). Patients may have reported histories of neurological trauma, but also present with varied psychiatric symptoms and/or effects of medications, all of which confound meaningful neuropsychological assessment. When the factors of financial compensation and malingering are added to the clinical mix, the assessment task is formidable.

Cultural factors can significantly influence the apparent presentation of a malingering effort (Layde, 2004; Weiss & Rosenfeld, 2012). In a study with ultraorthodox Jewish military inductees, 24 subjects who had been diagnosed as malingering were re-examined (Witztum, Grinshpoon, Margolin, & Kron, 1996). The reexamination found 21 subjects to evidence severe psychopathology (i.e., psychosis, personality disorder, and mental retardation), but none was diagnosed as malingering. The investigators attributed the discrepancies in diagnosis to the ignorance, cultural bias, and counter transference of the original examiners.

As a final comment, the extensive availability of Internet library reference materials studies regarding deception in which subjects are educated and coached to engage in deception and malingering should always be taken into consideration. These same internet and social media resources can also be potentially valuable sources of collateral information regarding subjects and witnesses. These collateral resources should not be overlooked (Pirelli, Otto, & Estoup, 2016). As Ben-Porath (1994) pointed out, it is important for psychologists who interpret psychometric validity to understand the susceptibilities of psychometrics to malingering. Additionally, the use of experimental models of deception is subject to misappropriation and misunderstanding (Rubenzer, 2018b). Forensic psychologists must subscribe to the requirements of professional ethics codes regarding the validity and integrity of clinical methods (American Academy of Psychiatry and Law, 1995; American Psychological Association, 2010, 2013; Drogin & Williams, 2019; Heilbrun & Holiday, 2013; Martindale & Gould, 2012; Monahan, 1980; Pirelli, Beatty, & Zapf, 2017). This consideration extends to security of tests and test data (American Psychological Association, 2013).

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Hallucinations and Deception 20

Introduction

This chapter is an extension of the preceding chapter ([Chapter 19](#), Deception and Psychosis) in that hallucinations are a primary symptom of psychosis. The forensic topic of malingered hallucinations, however, is sufficiently important to warrant independent study. Hallucinations (primarily audio and visual) are highly complex symptoms occurring in psychotic disorders, primarily the schizophrenia spectrum. Hallucinations are often, but not always, associated with delusional thought. Auditory and visual hallucinations as psychotic symptoms are the primary focus of this chapter dealing with forensic assessment.

This chapter suggests five methods for assessing forensic-related, misrepresentation of a hallucinatory experience. These are assessing: (1) essential phenomenology of hallucinations, (2) violation of base rate expectancies, (3) degree of complex and self-controlled behavior evidenced by the assessee, (4) methods of assessing hallucinatory experiences as relevant to forensic matters, and (5) emerging neuroimaging techniques that by cortical mapping offer the prospect of differentiating actual from faked hallucinations (Bristow, Tabraham, Smedley, Ward, & Peters, 2014; McCarthy-Jones et al., 2017).

Hallucinations are typically defined as false sensory impressions (Blom, 2013). The “false” part of this definition refers to the lack of an external set of referents that would explain and support the event. Dreaming is considered by some to be a common example of a hallucinatory experience, at the onset (hypnagogic), or at the end stages of sleep (hypnopompic) (D’Agostino & Limosani, 2016; Kaplan & Sadock, 1985). Recent research regarding hallucinations has focused on trauma as a contributing variable to the hallucinatory experience; trauma appears to be an important causative and perpetuating factor, but the exact role of trauma as a variable remains inconclusive (Luhmann et al., 2019).

Estimates of hallucinatory occurrences vary, in part, because of differences in definition of what constitutes a hallucination versus what may be perceptual oddities. It is estimated that from 6% to 12% of the normal population experience hallucinations while awake (Coleman, Butcher, & Carson, 1984; Daalman et al., 2012; Hill & Linden, 2013; Parra, 2010; Parish, 1914; Slade & Bentall, 1988; Thagard, 2019). The incidence findings are comparable in child populations (Pearson et al., 2001). In children and adolescents, current findings indicate that hallucinations may occur in a transitory manner, but when consistent, can have a devastating impact. Hallucinations can occur with the very young and may then develop in concert with comorbid psychopathology. The latter clinical coupling can be a harbinger of suicidal behavior. Recent development of youth designed questionnaires regarding hallucinatory experiences have led to improved treatment options (Jardri et al., 2019).

An important consideration in evaluating situations for the potential for malingered hallucinations is multicultural factors (Siddi et al., 2019). Cultural beliefs may influence what is considered normative and usual regarding a perceptual experience.

This commentary is not intended in any way to impose value significance to any one cultural percept over another. Cultures vary widely regarding perceived interest in different sports activities (e.g., “football” versus “baseball” versus “soccer” versus “women wrestling,” etc.); cultural/religious beliefs may sanction certain practices where others do not (e.g., “speaking in tongues,” forms of religious “witnessing,” “voodoo,” “witchcraft,” and “witch burning,” etc.). All of these cultural differences may carry different meaning regarding what is considered hallucinatory and what is not.

In nonpsychiatric populations, hallucinations have been known to be caused by: (1) exhaustion, as in the last stage of the general adaptation syndrome (Selye, 1980–1983); (2) sleep deprivation; (3) social isolation, as in the “long eye” syndrome caused by rejection by working peers (Coleman, Butcher, & Carson, 1984); (4) severe reactive depression; (5) amputation of limbs, as in the phantom limb experience; (6) cardiac circumstances, secondary to cardiovascular medication or to atropine or its derivatives with hypersensitive persons (Kaplan & Sadock, 1985); and (7) secondary and latent reaction to intoxication by the hallucinogens, particularly LSD, mescaline, and psilocybin. Other drugs that can induce hallucinations include phencyclidine, opioids, methamphetamine, and cocaine. Alcohol abuse and withdrawal is also associated with hallucinatory experiences (Greenberg & Lee, 2001).

Ven and Merckelbach (2003) reported “fantasy proneness” as an essential feature of college students reporting hallucinatory experiences. A hallucinatory experience has often been reported by prisoners (Cocores & Cohen, 1996; Haj, Jardri, Larøi, & Antoine, 2016). Prisoners attribute the experience to lack of stimulation, isolation, and loneliness. Historically, when major mental illness was ruled out, this phenomenon in prisoners was referred to as Ganser’s syndrome, otherwise known as “prison psychosis” (Cocores & Cohen, 1996). Similarly, criminal offenders commonly feign hallucinations when they are attempting to present themselves as being psychotic for the purpose of appearing as either incompetent or as lacking criminal responsibility (Hayes, Hale, & Gouvier, 1997). A particular challenge is posed by offenders who have been previously psychotic including the experience of hallucinations and now are feigning psychotic symptoms in forensic circumstances (Pollock, 1998).

In matters of organic brain syndromes, hallucinations may be caused by a variety of circumstances (see reviews by Freemon, 1981; Lezak, 2012; Strub & Black, 1981; Teeple, Caplan, & Stern, 2009), including: (1) delirium, (2) tumors associated with increasing intracranial pressure, (3) temporal lobe lesions, (4) seizures of several types, (5) alcohol-related encephalopathy (Greenberg & Lee, 2001), (6) head injury, as in post-coma experiences and trauma-induced disorientation, and (7) irritation of various cortical sensory pathways. Examples of the latter include irritation of the visual pathways traversing the temporal lobes, which can trigger Lilliputian hallucinations (Chand & Murthy, 2007) or irritation of the olfactory pathways causing distinctive unusual odors, such as burnt rubber (Stevenson, Langdon, & McGuire, 2011).

Not all organic brain-induced hallucinations involve the perception of a separate reality. In organic hallucinosis, for example, the hallucinations (usually auditory) may arise within a full state of alertness and orientation. In Lilliputian hallucinations, the affected person usually knows the small figures are not real. Lilliputian hallucinations are typically not associated with delusions (Chand & Murthy, 2007).

The major psychotic disorders are associated with symptoms of hallucinations (DSM- V, American Psychiatric Association, 2013). The most commonly reported

symptoms associated with psychosis are auditory and visual hallucinations (Barnes, 2014; Dudley et al., 2018, 2019), which can be accompanied by delusional thought. Vivid hallucinations can be seen in all the schizophrenic subtypes. Hallucinations and delusions are also associated with the affective disorders. When considering a major affective disorder, the clinician using DSM-V diagnostic criteria is asked to clarify specifiers as to whether reported hallucinations are mood congruent or mood incongruent. The significance of this determination has to do with the level of illness severity and corresponding implications for potential behavioral risks such as suicide.

Early research indicated that different mental conditions can involve different forms of hallucinatory experiences. Alpert and Silvers (1970) reported a study in which 80 adult inpatients with symptoms of hallucinations and diagnoses of either alcoholism or schizophrenia were assessed. Table 20.1 depicts the differences in hallucinatory experience between the two groups.

There are a number of hallucinatory phenomena that defy ready empirical explanation. Hallucinations can occur simultaneously in more than one sensory dimension (Chesterman & Boast, 1994). Multidimensional or multimodal hallucinations most commonly involve visual and auditory combinations, but other combinations also occur (Steel et al., 2007). Multimodal hallucinations overall occur infrequently, but could mark important sources of base rate data with respect to understanding inducing conditions. Another complicating aspect of hallucinations is that they can be instigated by differing internal or external conditions. Tactile (haptic) hallucinations can be secondary to schizophrenia, to withdrawal from alcohol, or to drug intoxication. Olfactory hallucinations (Göktas & Azar, 2018), which are false perceptions of smell, and gustatory hallucinations which are false perception of taste, are often experienced together in such conditions as temporal lobe epilepsy, but also in schizophrenia. Reflex hallucinations involve an irritation in one sensory modality that creates a hallucination in another modality. For example, a toothache might set off an auditory hallucination in a person with schizophrenia. Kinesthetic hallucinations can involve the sensation of altered states in body organs where no sensory receptor apparatus could readily explain the experience. This is observed in psychotic patients, but also among organic patients, as for example, a complaint of a “burning sensation” in the brain accompanying the primary illness.

Table 20.1 Auditory Hallucinations in Schizophrenia and Acute Alcoholic Psychoses

	Alcoholic Psychosis	Schizophrenia
Onset in illness	Early	Later
Temporality	Continuous or frequent	Episodic, separated by hours, days, or weeks
Type of sound	Nonverbal noises or unintelligible voices	Voices, usually clear
Source	Within body	Outside body
Effect of patterned visual stimulation	Decrease in frequency	No change in frequency
Effect of arousal	Increase in frequency	No change in frequency
Willingness to discuss	Eager	Withdrawal response
Insight	Better	Worse
Delusions	Less frequent	More frequent

Source: Adapted from Alpert, M., and Silvers, K. *Am. J. Psychiatry*, 127, 298–302, 1970.

Slade and Bentall (1988) hypothesized that the experience of hallucinations was the result of an endogenous hallucinogen producing mechanism. The proposed mechanism was a chemical synthetization process within the body due to stress, or other factors, that creates a hallucinatory experience. More recent neuroimaging studies suggest that variations of this hypothesis may have some merit (Allen, Larøi, McGuire, & Alemanc, 2008; Massoud, 2013; Mocellin, Walterfang, & Velakoulis, 2006). Hallucinations may represent an induced mode of self-preservation in an attempt to restructure reality, in an effort to accommodate negative effect, or to endure stress in a more adaptive fashion.

Recent areas of research attempting to understand psychosis in general have focused on the impact of trauma as a contributing/causative in psychosis. Specific research regarding the role of trauma in a hallucinatory experience, however, has produced inconclusive findings. Luhrmann et al., (2019) reported that in some cases, trauma appears to play a significant role in contributing to a hallucinatory experience, but in other situations a minimal to no role. Hallucinations are experienced by a wide variety of unimpaired and impaired individuals.

The issue of the relationship between hallucinations and delusions in psychosis has been one of longstanding, unresolved debate. A prevailing historical sentiment has been that auditory or visual hallucinations occur initially, and then in some cases evolve into being linked with delusional thought. The linking process is not well-understood, and treatment approaches have generally involved addressing each symptom area separately.

Humpston et al. (2019) proposed that the hallucination/delusion debate was sufficiently complex to require input from more than one model of thought. Specifically, the authors proposed combining input from phenomenological and computational models. Both models have demonstrated recent empirical contributions to knowledge regarding hallucinatory experiences. If the “assessee’s reality” is considered a priority focus, then combining the two data sources is a logical next step. To proceed otherwise avoids the complexity of the psychopathology in question and ignores the utility of an integrative approach. The authors summarized, “We are fully aware that incorporating different lines of inquiry is only the beginning of a dialogic process between seemingly disparate fields in psychopathology research, and there is no single approach that can account for the sheer complexity of mental illnesses such as schizophrenia. Nevertheless, interdisciplinary research and integrative approaches are crucial in creating a mutual understanding and facilitating collaborative efforts, with the ultimate goal of maximizing benefits to the quality of life of patients with psychosis (Chaudhury, 2010). The realization that phenomenology and computation work in conjunction and inform each other is undoubtedly a vital first step toward achieving this goal” (p. S63).

Behavior Targets

Any sensory system can be targeted for hallucinations. These include the chemical senses (i.e., smell and taste), the mechanical (i.e., touch, hearing, vestibular-head movement and orientation, joint position and movement, and muscle), the photic (i.e., seeing), and the thermal (i.e., cold and warmth) systems. An important initial determination is whether there is a medical basis including substance abuse that may explain hallucinatory symptoms. As we have indicated, with psychosis, the most commonly reported hallucinatory experiences are auditory (Daalman et al., 2011, 2012) and visual in nature. Sensory misperceptions can

be combined (multimodal) in a variety of ways that may be clinically telling. The faker may pick a hallucination for a certain time and circumstance (e.g., previous to, during, or after a crime; at the time of an evaluation). Targets may be chosen with distinctive qualities in terms of duration, intensity, form, and frequency. Some aspects of hallucinatory experiences are difficult to fake without prior experience or knowledge of hallucinations. These include one's expected response to bona fide hallucinations, the "origin" of the hallucinations, and the normal sequence of prodromal and residual symptoms. The faker will often find themselves in a position of having to generate information when questioned and of striving to maintain accuracy and consistency regarding complaints of hallucinations. Targets in the forensic circumstances are chosen in the service of foreseen goals, such as exculpation or mitigation in a criminal proceeding.

Hallucinations falsely superimposed on existing mental disorders such as schizophrenia can be difficult to discern. The best lie is the partial truth, and this applies to faked hallucinations in experienced subjects. The evaluator should keep in mind that some distortion in falsely describing hallucinations may be nondeliberate. Junginger and Frame (1985) reported a negative relationship between hallucinatory clarity and physical origin of the hallucination. Hallucinations appear to be most vividly heard when originated inside the head, yet a bimodal distribution was reported in ascribing hallucinations to be internal or external in origin.

Response Styles

Various examples of response style in reporting hallucinations follow:

Honesty	A subject with organic disorders shares his/her hallucinations with accuracy
Faking good	A subject with schizophrenia denies hallucinations (e.g., to get out of hospital)
Faking bad	A psychopathic subject makes up claims of hallucinations to avoid imprisonment
Invalidation	No conclusions can be drawn; the faker may have unsuccessfully attempted to fake good or bad
Mixed responding	Admits to hallucinations but denies schizophrenia
Fluctuating	Admits to hallucinations, and then changes story as vested interests change when reevaluated

Detection Methods

The detection of a defendant's feigned mental health symptoms in criminal matters can be one of the most challenging tasks for the forensic evaluator. In most circumstances, forensic feigners do not relinquish their ruse with honest admission. They will persist to the end with their false front, while simply refusing to respond to confrontation about inconsistencies or contradictions. People who live their lives with at least a modicum of effort to be truthful and honest, most of the time, have difficulty grasping the ability of those who live, most of the time, by deception as a code of interacting with others. This difficulty

of understanding a lifestyle of deceptive interaction is one root of the deceiver's success. Deceivers are masters at plying this flaw of naïveté and unqualified acceptance by the masses. Most people attempt to live by truth and trust, at least most of the time. The existential reality of being human is being perfectly imperfect. Most people accept the realities of physical illness or mental health disabilities as aspects of humanness. The deceiver attempts to warp these commonly held views to their own advantage (Chesterman, 2001). Beyond the abilities of forensic evaluators to be accurate detectors of deception, the courts also struggle with the challenge of detecting malingering and deception. Perhaps too often, the final determinations of the courts regarding deception are the result of best considerations of what is often highly ambiguous data.

The use of base rate information to detect feigned hallucinations has been amply described by Resnick (1984, 1988, 1997, 1999) and involves the assumption that fakers may not be fully aware of the true clinical features of hallucinations. Resnick stated, "Detailed knowledge about actual hallucinations is the clinician's greatest asset in recognizing simulated hallucinations" (1988, p. 37). Today, however, the Internet has made these data readily available to anyone who searches for descriptions, and the evaluator must always be mindful of the possibility of a defendant who has searched for information or who has been actually coached regarding efforts to deceive or malingering. We have seen cases where a defendant's knowledge of these baseline data surpasses the usual acumen of forensic evaluators. A sampling of baseline data with real hallucinatory experience includes the following characteristics:

1. They are related to some psychic purpose
2. Many can be associated with delusions
3. Eliminated or reduced when the individual is preoccupied with some activity
4. Often perceived as originating from the outside (i.e., not from within the experiencer's body. Some schizophrenics affirm that the "voices" could have been due to their imagination
5. Female and/or male voices with clear, not vague messages. Talking back to voices and perceiving the voices as accusatory occur a minority of the time; persons with schizophrenia usually perceive voices speaking directly to them
6. Whether with eyes open or closed, no prodromata is usually experienced
7. Olfactory hallucinations are usually perceived as unpleasant
8. Typically experienced as emanating from normal-size people (except with Lilliputian hallucinations, see Chand & Murthy, 2007)
9. Visual hallucinations usually occur in color as opposed to being filtered into black-and-white
10. Acute schizophrenic episodes often accompanied by complaints of an onset of peculiar tastes (gustatory hallucinations)
11. Alcohol withdrawal-induced hallucinations often involve complaints of vivid figures discussing the experiencer in the third person. These patients do not typically respond to command hallucinations and seem motivated to avoid threat or disgrace

Chouinard et al. (2019) described a study involving a large number of adults ($n = 766$) diagnosed with various forms of psychotic disorders including schizophrenic, schizoaffective, and bipolar I disorder. Of the combined subjects, 26.1% were determined to

have experienced visual hallucinations (VH). Statistical analysis (multivariate logistic regression) reflected a multidimensional association with auditory, tactile, olfactory, and gustatory hallucinations. Histories of suicidal behavior and catatonic experience were statistically associated with VH. In addition, a specific delusional experience (i.e., control, religiosity, erotomania, and jealousy) was also associated with VH. According to the researchers, diagnosis, negative symptoms, and family history, were not independently predictive of VH.

Complex Behavior and Hallucinations

A clear distinction should be made between alleged hallucinations at the time of the evaluation vs. some other time period (e.g., the instant offense). Hallucinations can bear upon competency to proceed if they adversely affect: (1) the ability to cooperate with one's attorney, (2) knowing the nature and quality of the legal proceedings, and (3) the possible punitive consequences to oneself. The faker may portray incompetence by presenting hallucinations for the time of the evaluation. Feigning hallucinations for the past is more congruent with attempting to escape criminal responsibility rather than with incompetency.

Genuine hallucinations in the present do not imply that previously reported hallucinations were genuine. The two time periods (e.g., time-of-offense and time-of-evaluation) must be considered separately. One can fake for the present moment and still have had genuine hallucinations at the time of the alleged crime. Perhaps the accused (now stabilized and not experiencing hallucinations) feels the need to remain consistent with previous behaviors. In sum, both current and previous time periods can involve faked or genuine hallucinations and present as complex differentiations for the evaluating forensic clinician.

For criminal responsibility, the most relevant period is in the past and especially the relevant period of time immediately preceding the offense circumstances. Questions to be asked for past events include the following:

1. According to the victim or witnesses, did the accused:
 - a. State that he/she was experiencing hallucinations?
 - b. Act in a manner congruent with hallucinations (e.g., turn in direction of "voices," continually scratch his/her skin for tactile hallucinations, and stare at one spot)?
2. Did the accused exhibit purposeful and self-controlled motor behavior?
 - a. A complex, effective, self-controlled performance is antithetical to disorganized behavior typically caused by hallucinations

When an effective performance occurs during a violence sequence, the effective performance reflects the notion that the accused may simultaneously observe and accommodate their behavior in response to a fluctuating environment, all in accordance with the goal or desired object of the action sequence. Hypothesis testing and accommodation by defendants are high forms of effective performances (i.e., suggesting non-psychosis), as when the accused changes his or her own behavior (e.g., threatens victim, puts key in lock) to

see the reaction (e.g., victim acquiescence, door becomes unlocked), and then changes his or her own behavior accordingly (e.g., proceeds to rape victim, goes through door to bedroom). In essence, this skill reflects the ability to show a concordance between intentions/plans and actions. Such complex behaviors and abilities suggest that hallucinations were not operative:

1. Demonstration of a variety of acts (flexible behavior as with multiple weapons)
2. Display multiple sets of simultaneous motor behaviors
3. Ability to orchestrate multistep, multitask scheme (e.g., chains of behaviors connected together)
4. Ability to show change in principle (e.g., from robbery to rape)
5. Ability to show self-controlled somatic responses (e.g., sex with ejaculation, eating, and drinking; all within violence sequence)
6. Ability to delay responses
7. Ability to monitor and self-correct ongoing behavior
8. Defendant hypothesis testing, as illustrated above
9. Awareness of wrongdoing during violence (e.g., from statements to victim)
10. Ability to stop violence (e.g., response cessation with no perseveration)
11. Ability to regulate tempo, intensity, and duration of behaviors
12. Systematic obliteration or destruction of evidence during instant violence

One particular type of hallucination that is of special interest to the forensic evaluator is the so-called “command hallucination,” (Hellerstein, Frosch, & Koenigsberg, 1987) and, in particular, the relationship of the command hallucination as a predictive factor of dangerous behavior (Braham, Trower, & Birchwood, 2004; Hersch & Borum, 1998; Junginger, 1995; Junginger & Maguire, 2001; Kasper, Rogers, & Adams, 1996; Shawyer et al., 2013). Command hallucinations are most often associated with schizophrenia, and the experiencer’s compliance to the directives varies with circumstances (Barrowcliff & Haddock, 2010). The relationship of comorbid psychosis and substance abuse as potential predictors of dangerous behavior has been established (McNeil, Eisner, & Binder, 2000). In contrast to command hallucinations data, the numbers of individuals presenting with psychotic symptoms and comorbid substance abuse are substantially large. In addition, in contrast to command hallucinations data, the criteria of psychosis and substance abuse are independently verifiable and not totally reliant on experiencer report. When command hallucinations are reported by individuals in forensic circumstances, the outcome potentials will typically carry serious penalties. Thus, reports of command hallucinations by defendants are always highly suspect. These combined factors contribute to a small body of research data that are, at outset, questionable in terms of reliability.

Command hallucinations involve directives to the individual. Most typically the “voices” are auditory and reported to emanate from the experiencer’s consciousness. Most command hallucinations are innocuous in that they do not instruct dangerous behavior involving potential harm to oneself or others. Compliance with command hallucinations is a function of numerous variables. Experiencer reports of coping with command hallucination demands have been documented (Junginger & Frame, 1985; Junginger & McGuire, 2001). Experiencer reports have characterized voice commands in some situations as pleasant to even beneficent. The source of the commands is often a known entity including deceased individuals. Compliance with commands is dependent on the perceived positive

or negative relationship with the source. Likewise, the perceived intentions of the command source are a factor in compliance. Innocuous commands may include such directives as, “everybody is sitting down but you don’t have to” or “don’t pass the tray to the next person.” In social contexts, such directives may be uncomfortable or embarrassing for the experiencer, and also to others exposed to the situation, but in the end are relatively harmless.

The primary forensic assessment question usually involves the question of misbehavior or a criminal act as being the consequence of a command hallucination. The data are limited and not particularly impressive in terms of establishing a definitive link between command hallucinations and likelihood of dangerous behavior. In pertinent forensic evaluation circumstances, the skillful clinician may probe with such inquiries as, “When did you first begin hearing the voices?” and “When the voices tell you to do something bad, can you resist what they tell you?” Inability to respond meaningfully to inquiries, confusion, inconsistencies, and contradictions all become part of the interview assessment and should be carefully noted or recorded. The consensus of researchers is that although the data are limited, the potential of command hallucinations as an inducement to dangerous behavior warrants relevant inquiry as part of every risk assessment (Bucci et al., 2013; Hersch & Borum, 1998; McNiel, Eisner, & Binder, 2000).

Potential Indicators of Faked Hallucinations

1. The person admits to faking or is inconsistent in symptom presentation, along with confirming evidence
2. The hallucination cannot be explained by any known condition or event, along with the ability of the examiner to show faking in testing or observation
3. Knowledgeable/significant others or evaluators report complex, purposeful behavior while the accused is allegedly subject to hallucinations
4. Alleged command hallucinations occurred when behavior can be explained by secondary gain or an identifiable goal

Psychological and Neuropsychological Instruments

As outlined in the preceding chapter ([Chapter 19](#), Deception and Psychosis), there are a number of psychometric instruments that can be useful in the assessment of faked psychosis that include fake psychosis involving claimed hallucinatory experience. These instruments are all subject to the deception dynamics and deception manipulations that fakers of symptoms can utilize. A number of the psychometrics described in [Chapter 20](#) employ measures and algorithms to identify such faking. None of these efforts are foolproof as yet, but most can be helpful in the assessment of a hallucinatory experience (Massoud, 2014).

A number of other scales have been developed for specific application with hallucinatory and associated delusional symptoms, but with no particular forensic intent or association. These measures have typically been developed as clinical assessment tools for specific psychosis symptoms and responsiveness to treatment (i.e., neuroleptic medication,

cognitive-behavioral therapy, etc.). The forensic clinician may have exposure to these tools, and several of these instruments are summarized below:

PSYRATS (Psychotic Symptom Rating Scales; Haddock, McCarron, Tarrier, & Faragher, 1999). Scales developed to measure the severity of different dimensions of auditory hallucinations and delusions. The purpose was to assess the effectiveness of biochemical and psychological treatments. Use of the instrument was recommended to complement existing measures of treatment effectiveness.

PANSS (The Positive and Negative Syndrome Scale for schizophrenia; Kay, Fiszbein, & Opler, 1987). Consisted of 30 items across four scales measuring positive and negative syndromes of schizophrenia. This yields global scores regarding broad symptom areas.

NEVHI (North-East Visual Hallucinations Interview; Mosimann et al. (2008)). Semi-structured interview intended to identify visual hallucinations in the elderly who also have eye disease and cognitive impairment.

QPE (Questionnaire for Psychotic Experiences; Rossell et al., 2019). New instrument intended to overcome some of the limitations of the preceding instruments. Administered in interview format. The authors indicated that the questionnaire assesses the presence of multiple modality hallucinations and nine types of delusions. The authors also suggested that the questionnaire was an overall, reliable measure of psychotic experience. The questionnaire is free to use, available for download and administration over the Internet.

Neuroimaging and Hallucinations

The evolution of neuroimaging techniques presents with entirely new methods of assessing actual from faked hallucinatory experiences (Allen et al., 2008; David & Rapoport, 2012; Di Biase, et al., 2019; Fovet et al., 2016; Shergill et al., 2000). This technique utilizes established cortical mappings of actual hallucinatory experiences (Hoffman et al., 2003). The findings have potential forensic significance for ultimately making definitive determinations between actual versus faked hallucinations. We emphasize that although promising, these emerging techniques remain preliminary. The research-technology is complicated, expensive, and limited by the availability of samples of schizophrenics and normals willing to participate. Those who experience hallucinations must be willing to be identified and be subjected to research protocols. Most individuals who experience hallucinations are aware of the usual social stigmas of acknowledging such experiences. For periods of time, some psychotic individuals experience hallucinations as friendly, comforting, and even helpful. These individuals can view their hallucinatory experience being challenged as invasive, demeaning, and unwelcomed. Thus, gaining willingness to participate as research subjects is not always straightforward. In most instances, the procedures themselves are noninvasive, but they are time-consuming and can involve some discomfort. In forensic circumstances where feigning of hallucinations is probable, willingness to participate in research will be problematic until the neuroimaging procedures are proven in design.

Di Biase et al. (2019) employed neuroimaging to map the cortical activity associated with auditory verbal hallucinations (AVHs). The study involved a group of healthy

voice hearers ($n = 32$), a group of schizophrenic voice hearers ($n = 35$), and a group of matched controls without AVHs ($n = 40$). Diffusion weighted, magnetic resonance images,¹ white matter fractional anisotropy,² and gray matter thickness imaging data were collected. The pertinent neural area findings were analyzed by comparison to established normal cortical region data mappings. The findings reflected no significant differences between the control group and the healthy voice hearers. The healthy voice hearers and the schizophrenic subjects displayed white matter pathology. According to the authors, the white matter pathology was found across four cortical regions, the left and right anterior limbs of the internal capsule (white matter structure situated in the lower medial area of each cerebral hemisphere), in the splenium (thick posterior area) of the corpus callosum, and the genu (anterior area) of the corpus callosum. No pathology of gray matter was observed. The authors noted that the white matter, microcellular pathology issues was not exclusive to all AVH subjects, and thus the apparent neural structural findings with AVH could not be straightforwardly ascribed to all AVH subjects. The findings were most prominent across AVH subjects who were younger (age > 40 years). The authors suggested that aging and possibly other lifetime trauma-related factors may contaminate the findings, and that future studies could address this issue by mapping white and gray matter pathology changes over subjects staged by age groups. The findings suggest that continued research may enable technology that will neurally differentiate actual from deceptive claims of hallucinatory experience.

Jardri et al. (2009) utilized specialized neuroimaging techniques to explore underlying neural mechanisms involved in multisensory hallucinations. The neural imaging included the functional magnetic resonance imaging measurement of specific brain area cortical thicknesses and repetitive trans-cranial magnetic stimulation. In one such study, Jardri et al. (2009) hypothesized that unimodal, hallucinatory experience could be neurally localized in brain areas responsible for synthesizing cross-modal sensory information. In this single subject, case study (Jardri et al., 2009), the researchers described spontaneous activation coincident to cross-sensory hallucinatory experience in established “visual, auditory, cross-modal and cognitive brain areas.” These cortical areas comprised the “occipito-temporal sulcus,” and according to the authors, appeared to be an entry point into the overall neural network responsible for the binding processes that resulted in cross-sensory hallucinations. In this study, applied electro-stimulation (repetitive trans-cranial magnetic stimulation) of these specific areas reduced cross-modal hallucinations. The future prospect of neuroimaging techniques differentiating feigned hallucinations from actual hallucinations in forensic circumstances is fascinating.

¹ The magnetic resonance imaging images were diffusion weighted. That is, timed radio frequency pulse sequences are coded into T1 and T2 with T-1 images highlighting fat tissue and T-2 images highlighting fat and water tissue. The resulting images can be used to differentiate relative pathology of cortical tissue.

² Fractional anisotropy is a measure often used in diffusion imaging where it is thought to reflect fiber density, axonal diameter, and myelination in white matter.

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Deception and the Systemic Problem of Substance Abuse

21

Introduction

Of all the areas of forensic practice, there is hardly one area more encompassing of en masse deceptive behavior than the complicated world of substance abuse. Deception is an integral aspect of the world of substance abuse and interwoven at every level of production, distribution, abuse of illicit and legal substances, policing, adjudication, rehabilitation, and prevention efforts. A full appreciation of this certainty is a foremost requirement for every forensic assessment involving matters of substance abuse.

Base Rate and Prevalence Data

A vast literature continues to accumulate documenting the prevalence and effects of the substance abuse problem (e.g., see Bachhuber, Saloner, & Cunningham, 2018; Cunningham, Walton, & Carter, 2018; Chen & Jacobson, 2012; Drug Enforcement Administration (DEA), 2017; Duncan, 2016; Jellinek, 1952, 1980; National Institute of Drug Abuse [NIDA] 2015, 2017, 2018; Substance Abuse and Mental Health Services Administration (SAMHSA), 2015; Ward, Bejarano, Babor, & Allred, 2016). The National Institute on Drug Abuse (NIDA) (www.drugabuse.gov/) is a United States (U.S.) federal government research institute. The NIDA's purpose is to address the problems of drug abuse and addiction by relying on science and research to track the problem of substance abuse nationally and to collect data regarding effective methods of prevention and treatment.

Worldwide, two substances, alcohol and tobacco, remain as the primary threats to human health and well-being. According to a study from the World Health Organization (Peacock et al., 2018), the percentage of adults, worldwide, reporting the use of alcohol in the preceding 30 days was 18.4%. Also, 15.2% reported daily ingestion of tobacco and 3.8% reported regular use of cannabis. The percentages, worldwide, for illicit substances were 0.77% for amphetamines, 0.37% for opioids, and 0.35% for cocaine.

The U.S. Department of Health and Human Services has the responsibility for leading public health efforts to advance the behavioral health of the United States. One agency within the U.S. Department of Health and Human Services is the Substance Abuse and Mental Health Services Administration (SAMHSA), (2017). SAMHSA's mission is to reduce the impact of substance abuse and mental illness on America's communities. The SAMHSA website (www.samhsa.gov/) is a source of drug abuse incidence data and of available public resources. SAMHSA published a 2017 state by state substance use map by age group that can provide useful prevalence data for the interested reader (National Survey on Drug Use and Health (NSDUH-2017), <www.samhsa.gov/data/report/2016-2017-nsduh-national-maps-prevalence-estimates-state>, and <datafiles.samhsa.gov/study/national-survey-drug-use-and-health-nsduh-2017-nid17938>).

Since 2007 (the last national survey), the use of marijuana in the United States had steadily increased (by approximately 6%). In contrast, the abuse of most other drugs has stabilized or declined. Also, according to NIDA data (2017, 2018), approximately 2.5% of Americans aged 12 or older acknowledged using prescription drugs non-medically in the preceding month. Prescription drugs included pain relievers, tranquilizers, stimulants, and sedatives. Another 0.5% of Americans acknowledged ingesting hallucinogens (lysergic acid diethylamide [LSD], psilocybin, ecstasy, etc.). In 2013, cocaine abuse had decreased from a previous high point from 2002 to 2007. In 2013, methamphetamine abuse had increased slightly from estimates in 2010.

Presently, there is an opioid crisis in North America based on overdose and mortality rates of prescribed opioids (Cicero et al., 2014). According to the Centers for Disease Control and Prevention (CDC, 2017), the abuse of prescription medication as well as of over-the-counter medications with psychogenic properties has risen steadily. The combined levels of abuse/misuse of illegal substances, over-the-counter substances, and prescription drugs have resulted in drug overdose deaths being the leading cause of injury/death in the United States (CDC, 2018).

The SAMHSA publishes an annual National Survey on Drug Use and Health (NSDUH). These reports estimate national indicators of substance use and mental health among non-institutionalized people 12 years of age and older. The NSDUH data are presented by age subgroups. The following are selected highlights from the 2018 NSDUH data (Substance Abuse and Mental Health Services Administration 2019) regarding substance abuse. In 2018, just over 60% of people in the United States aged 12 or older are substance abusers (i.e., tobacco, alcohol, or illicit drugs). Between 2002 and 2018 there was a general decline in tobacco use across all age groups. The report noted that some of the tobacco decline may be related to an increase in “vaping,” but these data did not currently require vaping as a separate question. We will comment further on the practice of vaping later in this chapter.

The NSDUH collected data across age groups on past month alcohol ingestion. These data are categorized into binge alcohol use and heavy alcohol use by gender. For men, *binge alcohol use* is defined as consuming five or more drinks on a single occasion in the past 30 days. For women, *binge drinking* is defined as consuming four or more drinks on a single location in the past 30 days. *Heavy alcohol consumption* is defined as *binge drinking* on five or more days in the past 30 days. In 2018, approximately 139.8 million Americans age 12 or older consumed alcohol in the prior month. Of these, 67.1 million were binge drinkers and 16.6 million were heavy drinkers. Of these numbers, 1 in 11 adolescents were estimated to be past month alcohol users.

The 2018 NSDUH data reflected a modest increase of illicit drug usage over the data from 2015 to 2016. This increase was primarily reflected in increased marijuana use. In 2018, the largest novitiate increases of substance abuse were with alcohol and marijuana. Prescription drug misuse was the second most common form of *illicit* (i.e., *next to marijuana*) substance abuse in 2018. The NSDUH reports of substance abuse were higher with both adolescents and adults when co-occurring with mental health disorders.

The current opioid crisis in North America began in the late 1990s (Phillips & Krausz, 2018). Prior to that time, opioids were medically utilized primarily in the management of chronic pain (Alam & Juurlink, 2016). The crisis of abuse was largely the result of pharmaceutical companies encouraging the belief that long-term opioid therapy was an effective and safe treatment for chronic pain for patients with or without cancerous pain. By the late 1990s, the pharmaceutical companies advertising campaign had been effective, showing marked increases in opioid production and significant increases in opioid mortality rates. The elements of deceptive behavior inherent to the foregoing national problem represent

an area of significant challenge for forensic evaluators, who become stymied with abuser deception despite clear evidence otherwise that substance abuse is increasing at alarming rates (Green, Heimer, & Grau, 2008; NIDA, 2018).

A variation of substance abuse on the contemporary scene involved abuse of several central nervous system depressants that have been associated with sexual assault and robbery of victims who are surreptitiously given the substances by perpetrators. Examples of these substances are Rohypnol and gamma hydroxy-butyrate that among other slang terms are called “date rape” drugs. The Drug Induced Rape Prevention and Punishment Act was enacted into federal law in 1996 in response to the abuse of these substances (ONDCP, 1998).

New methods of tobacco ingestion have also emerged over the past two decades. This practice is variously referred to as “vaping,” “E-cigarettes,” “e-hookahs,” and “electronic nicotine delivery systems” (Tokle & Pedersen, 2019). At the current time, the vaping industry is generating billions of dollars annually (see www.fda.gov/tobacco-products/products-ingredients-components/vaporizers-e-cigarettes-and-other-electronic-nicotine-delivery-systems-ends; http://apps.who.int/gb/fctc/PDF/cop6/FCTC_COP6_10-en.pdf). Although deemed new, beginning with their emergence in the 1980s, “vaping” as a method can be traced back to the ancient Babylonians and Egyptians. Ancient methods involved inhaling the vapor from burning plant products (herbs, spices seeds, etc.) spread across embers. Use of E-cigarettes evolved from tobacco ingestion that purportedly was safe because the user avoided ingesting combustion by-products. Vaporization is a fast and effective mode of ingesting tobacco. In rapid sequence, vaporization became the touted method for cannabis ingestion; this eventuality was enhanced with the still evolving legal liberalization of cannabis usage. Early forms of vaporizers in the 1980s were mechanically complicated, of limited availability, and therefore expensive. Over time, they became more simplified, more available, less expensive, and more widely used. Commercially available E-cigarettes involve tobacco as the prime agent and represent one type of vaping device. In order to increase the appeal to the younger population, the products are cleverly available in a variety of flavors with exotic names. Other devices utilize different agents, most notably cannabis, but also other chemical agents intended to induce psychogenic effects; an obvious concern is that the addition of these products is essentially unregulated.

Lithium batteries are the electronic power source in current vaporizers; they are disposable and relatively inexpensive starting in the \$10 range. The batteries power miniaturized heater coils that vaporize liquids containing the tobacco, aromatics, cannabis mixtures, and whatever else producers can concoct to induce psychogenic side effects, most desired is euphoria. Vaping is the act of ingesting the produced vapor. Although vaping proponents suggest that the activity is safe, there is mounting evidence that it is not. Vaping devices are widely used by preadolescents through young adults (Cullen et al., 2018; Huang et al., 2018). One new type of E-cigarette is marketed as JUUL. JUUL E-cigarettes are about the size of a computer flash drive. The JUUL product utilizes disposable flavor pods; each pod contains the approximate nicotine equivalent of a pack of cigarettes. There are growing reports of lung and respiratory illness and related deaths secondary to use of the vaping products. The precise source of injurious constituents remains inconclusive.

Coincident to neurodevelopmental findings that the human brain does not fully mature until the early 20s, researchers have expressed concerns regarding neuronal development and early alcohol use/abuse, particularly with teenagers and young adults (Brown, Mott, & Myers, 1990, 1992; Cacciola et al., 2015). Other researchers have expressed similar concerns with adolescent cannabis use/abuse (Brooks, Adams, Balka, &

Case example—1: One of the authors (JGP) was a clinician on active duty with the United States Army and stationed at the Walter Reed Army Medical Center in Washington DC during the Vietnam conflict. The author was the clinical director of the alcohol and substance abuse treatment program (1971–1973). One of the patients was 44-year-old Sgt. Green. One weekend evening, an angry, physically combative, and verbally abusive Sgt. Green was brought into the emergency room by military police. Initially, Sgt. Green was diagnosed with acute alcohol intoxication. A later toxicology report confirmed the original diagnosis, but also revealed ingestion of cannabis and opioids. Otherwise Sgt. Green was reported to be in good health. Sgt. Green was on active duty with the United States Army and presently stationed at Walter Reed as a senior laboratory technician. Sgt. Green was divorced, and by court order, was making child support payments to the mother of his two children. Sgt. Green had served two 18-month tours in the Vietnam conflict. Following his second tour in Vietnam, he returned stateside addicted to heroin that was available in the streets of downtown Saigon in packets costing a few dollars. The purity of the Saigon heroin was approximately 96% compared to a purity of 4% to 6% of the street available heroin in the District of Columbia. Sgt. Green's addiction was identified during his flight back to the United States. Following detoxification, Sgt. Green was mandatorily transferred to the substance abuse outpatient program.

Senior staff reported that Sgt. Green was initially not very forthcoming. The program enjoyed the service of retired, Sgt. Major (E-8) Moore, who now, as a civilian, functioned as a program manager in the Walter Reed substance abuse treatment program. Sgt. Moore was also a Vietnam veteran and highly respected by the hospital command. Sgt. Moore was administratively responsible for a large staff that included several civilians in various administrative positions and some 24 or so enlisted medical/psychiatric technicians.

Sgt. Moore determined through command contacts that Sgt. Green was a well-known and frequent consumer at the Non-commissioned Officers Club (NCO Club). When Sgt. Green entered the outpatient portion of the treatment program, he initially presented as friendly, conversant; he was well liked and respected by both staff and other patients involved with the program. He was especially well liked by the younger soldiers. In an initial diagnostic interview, Sgt. Green presented as being profusely and tearfully apologetic. He expressed a primary desire to continue in his occupational specialty as a senior technician in the hospital laboratory and work toward a full military retirement. The laboratory assessed specimen samples from hospital patients and special patient samples forwarded from medical personnel stationed in Vietnam.

Clinical staff initially reported that Sgt. Green was a model participant in the treatment program. He participated in required Alcoholic Anonymous meetings, group psychotherapy sessions, and urinalysis. Approximately six months into treatment, Sgt. Moore began alerting the program director that command supervisors were expressing concerns about Sgt. Green. He had accumulated over \$5000 in credit charges at the NCO Club, his use of sick leave had become excessive, and fellow laboratory staff were complaining about Sgt. Green's unusual "moodiness." In an apparently unrelated matter for the director, the rate of daily positive urine specimens had suddenly dropped from a usual approximately 30% positive rate to under 5%.

Further inquiry revealed that Sgt. Green had convinced his superiors in the hospital laboratory that he was the most proficient technician with the complicated urinalysis evaluation equipment. At this point, the perceptive reader has probably deduced the case history outcome. Sgt. Green eventually acknowledged that his substance abuse had

continued, and with that, increased debt to predominantly include purchases of illicit substances from the street. Since he was the primary technician analyzing urine specimens for substance abuse, he concocted a scheme to falsify his urinalysis reports, but also to do the same for select young recruits who were fellow patients in the program and who were willing to pay from \$25–\$50 per falsified urinalysis report. Sgt. Green was removed from his post. The Judge Advocate General's Corps office became involved and legal charges were imposed. Charges were also lodged by several complainants including the soldiers who paid for falsified urinalysis reports and felt that they were unfairly punished by the actions of Sgt. Green. One further aspect of Sgt. Greene's predicament was civilian family court involvement regarding unpaid child support.

Johnson, 2002; Burstein, 2012). The legality of marijuana continues to be a complex issue (Hall & Weier, 2015; Sznitman & Bretteville-Jensen, 2015). The legal status of cannabis varies from country to country and, in the United States, from one legal jurisdiction to another. The forensic conundrum of assessing substance abuse and its dimensions of fakery are illustrated in Case example – 1.

The case history example of Sgt. Green illustrates the intimate nexus of deception and substance abuse. The Sgt. Green example is only a limited portrayal when one considers the broader network of collateral deception in the substance abuse world. The extended web of deception in the Sgt. Green matter included the clandestine production, distribution, and sales of illicit substances both in Vietnam and then locally. The circumstances impacted Sgt. Greene's family members, multiple fellow soldiers, and multiple components of military operations. The circumstances also created concerns for Sgt. Green and the likelihood of his continuing in a lifestyle of deception. Sgt. Green's status was further confounded by his likely dishonorable discharge from military service and probable incarceration in a military penal facility.

The Target Problem

There are three identifiable categories of substances of abuse as determined by the basic effect a substance has on the human central nervous system. These categories are the *depressants* or “downers,” all of which have addictive properties (e.g., alcohol; controlled prescription drugs; synthetic opioids; heroin; etc.), the *stimulants* or “uppers” (e.g., amphetamines; methamphetamines; etc.), and the *hallucinogens* or “scramblers” (e.g., hallucinogens; cocaine; psychedelics; marijuana; and emerging synthetic agents with psychoactive substances; marijuana; etc.). The NIDA (2019) established that the hallucinogen category has two subcategories: the *classic hallucinogens* (e.g., LSD, peyote, psilocybin, etc.) and the *dissociative drugs* (e.g., phencyclidine [PCP], ketamine, salvia). Some substances have properties that qualify for more than one of the categories. Cocaine, for example, is described as a “stimulant narcotic” (retrieved from www.drugabuse.gov/publications/drugfacts/cocaine).

Some substances of abuse are available in naturally occurring forms, for example, raw marijuana, mushrooms, and peyote (a small spineless cactus native among other areas to Mexico and southwestern parts of Texas). Peyote contains the hallucinogen mescaline.

Another example is cocaine, a powerfully addictive stimulant drug made from the leaves of the coca plant native to South America. These substances are collected, dried, and then processed in clandestine laboratories. These so-called “laboratories” range from obscure back rooms to sophisticated, but unregulated chemical and pharmaceutical manufacturing plants. Typically, all these producers have non-existent or at best erratic quality control. Thus, users are at significant risk for substances of undetermined potency or purity. It is to the economic advantage of illicit producers to use adulterants to dilute and mask the appearance of illicit substances. For example, producers will use filler materials, such as clippings of common grass, oregano flakes, catnip, and “rat poison”¹ to adulterate products. Since the entire production to ingestion cycle is unregulated, adulteration can occur at any stage. Producers with various levels of expertise with chemistry will adulterate opioids, amphetamines, cocaine, and other substances with impurities. The circumstances often incorporate singularly criminal levels of deception in terms of potential harm. Such deception can result in unpredictable side effects by the time the products are available in the street. The side effects can include the unwitting death of the user. Perhaps even more tragically, there are typically no recrimination mechanisms when tragedy occurs.

As a single example of the substance abuse deception cycle, we will focus on heroin, an opioid derivative. Unlike many other substances of abuse, opioids also have legitimate medical applications. This fact makes epidemiological study of heroin abuse problematic (Centers for Disease Control and Prevention, 2017; Muhuri, Gfroerer, & Davies, 2013; Jones, 2013). According to one study (Chen, Hedegaard, & Warner, 2013), the total number of unintentional poisoning deaths from prescription opioids quadrupled in the time period from 1999 to 2010 and have continued in a pattern of escalation. These data constitute the opioid crisis involving abuse of prescribed opioids referenced earlier. The mortalities for the time period have outnumbered the total of substance abuse-related deaths from (illegal) heroin and cocaine combined. Recent public and political recognition of the problem of prescription opioid abuse has resulted in measures being taken by, and against, major pharmaceutical producers.

Natural opioid derivatives are obtained from the opium poppy. The native range of opium poppy is the Eastern Mediterranean, but it is grown and cultivated worldwide in botanically inviting temperate climates. Naturally occurring alkaloids from the opium poppy are used in raw form or are extracted to produce synthetic opioids. Heroin is one alkaloid form of opioid. Heroin is highly addictive because of its intense psychogenic properties of inducing euphoria. Heroin is a controlled substance; it is illegal in most developed countries, and it is a prime, potent substance of addiction. Illegal heroin eventually becomes street available and prolifically so. Presently, Mexico is a major source of illicit heroin making its way into the United States (see www.dea.gov/sites/default/files/docs/DIR-040-17_2017-NDTA.pdf).

The substance abuse, deception cycle with heroin can begin on small family farms. From the farm, the network of heroin acquisition, raw processing, packaging, transport,

¹ The Federal Drug Administration (FDA) issued a 2018 warning that synthetic marijuana sold in the street under names such as “Spice”, “K2,” and “AK 47”, resulted in the hospitalization of users. Symptoms included severe bleeding because of an additive “brodifacoum” (BDF). BDF was apparently used as an additive to enhance the effects of the marijuana, but BDF was also a potent anti-coagulant utilized as a lethal ingredient in rat poison. (Retrieved from www.usatoday.com/story/news/nation/2018/07/20/fda-warning-synthetic-marijuana-rat-poison/802585002/).

distribution, and funneling to local area suppliers is a complex and secretive sequence. One aspect of unintended deception is the network of federal, state by state, and local law enforcement personnel that includes undercover agents whose primary function is investigation achieved by infiltration of the heroin supply and user network. Local suppliers and dealers are the final link to individual users who participate in their own cyclic web of deceit that involves suppliers, local gang connections, and peers. In addition, the web of deception can extend to fellow users, loved ones, law enforcement agents, courts, parole and probation officials, healthcare providers, and the list goes on. The worldwide substance abuse network represents a consummate human system of organized deception.

Enter the humble forensic evaluator, who is a minute player in a broad network of cunning and deception. At any point of entry, the situation represents an overpowering challenge for forensic distortion analysis. With or without appropriate appreciation for the actual magnitude of the problem, forensic clinicians are faced with the formidable task of isolating and identifying deception in a confined context. The forensic evaluator must develop a methodical process of evaluation to assess appropriate segments of the web of substance abuse deception.

Deception Response Patterns

Deception in the substance abuse world has many forms and many levels. Essentially, there are no limits of fair play, and there are no prevailing attitudes of common decency regardless of who may be impacted. Free style and creative faking and outright denial are prevalent modes of deception in the substance abuse culture (Babor et al., 2018; Taylor, Sullivan, Ring, Macleod, & Hickman, 2016). From the standpoints of both law enforcement and public health, the significance of denial in substance abuse matters is an extraordinary hurdle. Denial prevents an accurate understanding of the extent of substance abuse and prevents any kind of meaningful prevention or intervention. A less frequent mode of deception is exaggeration of substance use. Exaggeration may occur to deflect culpability during crime investigation. It may occur by significant others desperately seeking intercession for the abuser by skeptical and overwhelmed resources. Mixed deception styles may also be present depending on the circumstances. The deceptive user may deny substance use, but admit to depression, marital problems, or (legal) cannabis and alcohol abuse. Substance abuse can also be acknowledged by deceptively claiming involuntary-induced ingestion, blaming extraneous circumstances (e.g., loss of a job, grieving, etc.) or other individuals (e.g., “bad influences”). Fluctuating response styles represent yet another form deception style. The faker may deny substance use problems from arrest through criminal trial proceedings in an effort to reduce culpability. Then during sentencing proceedings, the litigant may admit to substance abuse or even exaggerate a substance abuse problem to try and obtain a mitigating sentence to a community treatment setting rather than to prison.

The seriousness and extent of the problem of substance abuse are generally grasped by the American public. The DSM-V (American Psychiatric Association, 2013) diagnostic criteria for substance intoxication are available to the lay community. For the professional community, the rationale behind the evolution of the substance abuse diagnostic criteria

into DSM-V have been extensively described by the DSM-V Substance Abuse Subcommittee (Hasin et al., 2013). Among a list of many unresolved issues, the subcommittee emphasized that the DSM was a “work in progress.” Particularly with the substance abuse disorders, the ongoing flow of changes has been prompted and guided by international research findings that continue to evolve.

The major change in DSM-V regarding substance abuse diagnoses was eliminating the categorizations of *substance abuse* and *substance dependence* as separate categories. The resultant single category is now *substance abuse disorders*. The subcommittee contended that this change simplified the diagnostic process and afforded a better fit with research data. Essentially, the change views substance abuse and substance dependence as different points on a continuum. This change has resulted in controversy that the single continuum approach may not be applicable to each category of substance abuse in the same manner (Compton, Dawson, Goldstein, & Grant, 2013). For example, some drugs of abuse are not addicting, that is, induce physiological dependence. Different substances have different clinical courses of abuse. Timetables from experimental use, to psychological dependence, to physiological addiction are not consistent with the implications of the new DSM-V single continuum model. Another area that will require further research is the comorbidity patterns of multiple substances of abuse (Saha et al., 2018). The expectation is that ongoing research will further clarify these unresolved issues which will then be incorporated into future versions of the DSM.

One other DSM-V criteria change particularly relevant to our topic of detecting drug abuse deception was the elimination of “involvement in legal matters” as a criterion for substance abuse diagnosis. The DSM-V subcommittee determined that worldwide research identified relatively few adolescents and adults diagnosed with substance abuse who were also involved in legal proceedings. Also, it was the subcommittee finding that the legal involvement criteria did not contribute significantly to the other established clinical criteria.

FDA-5 Detection Strategies

The traditional method for establishing substance abuse behavior is gathering reliable, supportive documentation. Because of the high index of deception in all substance abuse matters, any data must be regarded with caution. In some instances, valuable information may be gathered from first responders to an incident. These would include fire and rescue personnel and investigating police officials. The authors have encountered situations in rural areas and in tightknit communities where first responders may have close relationships to substance abusers and therefore reported data are suspect. Likewise, in circumstances involving family members, gang members, military units, or other close social units an elevated level of caution by evaluators is warranted. Presumably objective data such as urinalysis and other laboratory findings and reports of medical personnel will be more reliable. Unfortunately, in the substance abuse world, all collateral data including explanations offered by first responders and other healthcare providers, responses to surveys, data in epidemiological studies, data from screening interviews, and formal medical/mental health screening/testing formats must all be approached with due caution.

Drug and alcohol intoxication are commonly understood as encompassing three factors: (1) recent ingestion of a psychogenic substance; (2) associated maladaptive

behavioral changes, such as poor judgment, labile behavior, and engaging in acts that are criminal in nature,² and (3) critical physical and psychological signs that will vary according to the substance(s) and their specific properties. The deceiver may attempt to mask symptoms to derail an investigation (e.g., by field testing, urinalysis, etc.). Typically, noncooperation with on-the-scene police investigators involving suspected intoxication takes the forms of flat denial, belligerence, aggressiveness, and feigned physical illness (seizure, cardiac, hormone imbalance, etc.). The range of reactions varies widely from resistance, to aggressiveness, to presentation of bizarre mental health symptoms (e.g., hallucinations, delusional thought, etc.), to complete unresponsiveness. The person who has a stake in denying or minimizing substance use may attempt to selectively hide symptoms. Symptoms chosen for denial depend on the faker's understanding of what constitutes a substance abuse problem. Referral information based on screening data can reflect potential signs of substance abuse. A summary of commonly reported data is listed in [Table 21.1](#).

Biological screening methods involving collection and testing of body fluids and products (e.g., urine samples, blood, hair, saliva, or sweat samples) provide one useful source of documentation in substance abuse matters. These detection methods assume monitored chain of custody from the point of sample draw through to laboratory analysis and report. The review of laboratory findings with biological specimens assumes that the reviewer understands the specific process of analysis and the limits of specific testing analysis (i.e., what specific substances of abuse are tested for, the limits of time period between ingestion, through time of collection, and analysis). Finally, the potential for contaminating data such as the possible confluence of prescribed or over-the-counter medications and certain products (hair, skin, oral chemicals, food flavorings containing alcohol, etc.), all of which may contribute to unreliable findings.

Table 21.1 Screening Data Signs of Potential Substance Abuse

1. Substances ingested in larger amounts or over a longer period than the person intended
2. At least one unsuccessful effort to cut down or control substance use, or continuing desire to quit
3. More time devoted to procurement, as opposed to ingesting the substance, or in recovery from abuse of the substance
4. Interference with work, school, or home obligations when intoxicated or in withdrawal, or when intoxication is imminently dangerous (e.g., while driving or operating complex equipment)
5. Substance use leading to decreased involvement in work, play, or social activities
6. Continued use with awareness of a medical or other problem that is created because of it (e.g., alcohol use with cirrhosis or pancreatitis, continued abuse even with confirmed related cardiac issues)
7. Progressive involvement in acting out behavior, marginally illicit behavior, anti-social activity to outright criminal behavior
8. Substantial tolerance with at least a 50% increase to attain the same level of intoxication, or a decrease in euphoric effects as experienced by the individual over time
9. Withdrawal symptoms with discontinued use
10. Withdrawal symptoms are purposefully avoided by reuse or increase in potency of substance of abuse

² From the legal standpoint, criminal acts are violations of the law irrespective of substance abuse. In some cases, however, the circumstances of intoxication may, per se, constitute a criminal act, e.g., documented, intentional prior substance abuse, and forcible rape. Even at this early stage, the reader can foresee the potential complications engendered by an element of intoxication in criminal behavior and the necessity of considered forensic assessment.

Urinalysis is the most common procedure for testing for substance abuse. In addition to forensic applications, it is used to screen employment candidates for a variety of professions and security positions to include military, police, fire, and first responder recruits. Urine screenings are also utilized with government employees (see SAMHSA Proposed Updated Rules for Federal Workplace Drug Testing 2004). Today, urinalysis resources are widely available, reliable, and relatively inexpensive. Guidelines for appropriate use of urinalysis findings are provided by Moeller, Kissack, Atayee, and Lee (2017). Urinalysis collection/analysis kits for purchase are available on the Internet for the general public. Concerned parents, suspicious spouses/suitors, and anyone questioning use of illicit substances by someone of interest can utilize these products. These latter testing kits are, of course, available for use on a “buyers beware” basis. Over the years, questionable instructions have been proposed about methods to circumvent positive urinalysis findings by substance abusers (Jaffee, Trucco, Levy, & Weiss, 2007). Today, a variety of these suggested schemes have been posted on Internet sites. Usual suggestions include substitution of animal (pet) urine samples, purposeful hydration, heavy physical exercise with frequent hydration, lowering urine Ph (acid) by ingesting vinegar, cranberry juice, and the like. Also, tablets to dissolve in water and feign urine products are available to interested parties; the tablets are available from Internet sources and also in retail stores with products catering to adolescent/young adult populations.

Suspected substance abuser urine specimens are typically collected under monitored conditions in local settings, such as hospital emergency rooms, community critical care clinics, substance abuse treatment programs, and parole and probation offices. Collected specimens are then analyzed locally when equipment is in place or are evaluated by booking facilities in metropolitan sites. Current urinalysis techniques can usually detect substance use for the prior 2 to 3 days. Exceptions are marijuana and PCP, which can sometimes be detected several weeks after use (Moeller et al., 2017).

A relatively new laboratory procedure, and one with promise in terms of accuracy and efficiency, is radioimmunoassay of hair (RIAH) (Rogers & Kelly, 1997; Cooper, Kronstrand, & Kintz, 2012). The technique is also relatively inexpensive. Another advantage of RIAH is the ability to test for drug metabolites beyond the range of usage of urinalysis. Depending on the substance in question, RIAH can detect prior usage up to a month or two compared to prior usage on average of 1 to 3 days with urinalysis. The metabolites of illicit substances become embedded in hair shafts; the shaft is a record of substance abuse and nonuse. RIAH is extremely sensitive and specific, but as with most laboratory assessment procedures there are qualifications. With RIAH, geographical variances, subject gender, and subject hair color are factors that must be taken into consideration (Jurado, 2015; Welp et al., 2003). RIAH has been utilized in workplace settings to monitor worker status and has been increasingly recognized as admissible in forensic settings. The main drawbacks of RIAH are that it requires special licensing and processing because of the radioactive agents necessary for the analysis, and it is not effective with alcohol abuse. Finally, laboratories do not yet use standardized procedures, thereby complicating cross-laboratory comparisons (Schaffer & Hill, 2005).

One of the authors (JGP) recalls experience with mandatory urinalysis testing in a military substance abuse treatment program. This was early on in the substance abuse treatment effort and at a time when the hospital laboratory had just initiated routine urinalysis. Specimens were analyzed according to an established protocol. The protocol involved routine screening of all urine specimens (regardless of gender) for pregnancy,

venereal disease, and other tests unrelated to substance abuse. Several weeks into the program, the appointed screening clinician reported that several male urine specimens had tested positive for pregnancy. The suspect male soldiers were questioned and ultimately acknowledged surreptitiously submitting urine specimens from girlfriends.

The collection of urine specimens was carefully monitored, but soldiers admitted to contriving a scheme utilizing a balloon device to substitute clean urine specimens. The balloons were taped to the armpit with a rubber tube attached to the balloon and hidden under the clothing and ultimately attached to the side of the penis. The scheme was detected by a sharp-eyed technician who observed the soldiers pumping their arm sideways during specimen collection. Another manipulative attempt involved soldiers dipping the urine specimen cup into the commode when the monitoring technician looked away or was deliberately distracted by an accomplice. As time went on, staff became increasingly adept at more careful and precise monitoring of the urine collection procedures.

Another incident involved a senior, noncommissioned officer producing several opioid-positive urine specimens. The sergeant was highly respected and had been the recipient of military medals from two extended tours involving combat engagement in the Vietnam conflict. A consultation with a hospital pharmacologist determined that a prescribed antidepressant medication was likely contributory to the false-positive finding much to the grateful relief of the sergeant. A brief trial of monitored abstinence from the antidepressant resulted in the eventual elimination of positive urine findings. Saitman, Park, and Fitzgerald (2014) summarized potential contaminants leading to false positive urinalysis findings.

The forensic clinician should be alert for reported history from reliable sources of potential physical, behavioral, and social indicators of substance abuse. These indicators may also become evident during a skillful assessment or staffing with the suspected abuser. The nature and extent of indicators will vary according to the substance(s) involved. A summary array of such possible indicators is presented in [Table 21.2](#).

Forensic assessors must be vigilant and alert for any possible hints of substance abuse and must recognize the craft and extent of deception that abusers will employ to avoid detection.

Table 21.2 Potential Behavioral Indicators of Substance Abuse

Physical Indicators:

Chronic alcohol abuse-related symptoms (Jellinek, 1952, 1980), e.g., “benders;” tolerance/loss of tolerance; tremors; and cognitive impairment

Alcoholic psychosis

Bloodshot or glazed eyes

Dilated or constricted pupils

Abrupt weight changes

Problems sleeping, or sleeping too much

General change in appearance, e.g., manner of dress, wardrobe style, application of makeup, bruising, recent tattoos, and recent body piercings

Positive laboratory bodily fluid(s) analyses, (urinalysis; blood; hair; and perspiration) findings (prior and current)

Visible “track marks” from recent/chronic hypodermic use (evaluators should note that users will inject in non-visible body areas (e.g., under tongue, genitalia, etc.) to conceal marks

(Continued)

Table 21.2 (Continued) Potential Behavioral Indicators of Substance Abuse**Behavioral Indicators:**

Documented incidents/history of substance abuse
 Substance abuse-related clinic, emergency room, or hospital visits
 DUI, DWI incidents history
 Self-report of substance abuse concerns
 Questionable dependability
 Increased aggression or irritability
 Changes in attitude/personality
 Lethargy, depression, and labile mood
 Sudden, unexplained changes in social network or social affiliations
 Dramatic changes in habits and/or priorities
 Increased aggression or irritability
 Changes in attitude/personality
 Sudden changes in a social network
 Dramatic changes in habits and/or priorities
 Involvement in youth gang activity (Taylor, Peterson, Esbensen, & Freng, 2007)
 Involvement in criminal activity (arrests, charges, court involvements, etc.)
 Involvement in domestic-related incidents, complaints, arrests, or court appearances

Potential Social/Environmental Indicators:

Reports/complaints/concerns by significant others, friends, acquaintances, etc.
 Substance abuse-related marital or family problems (Hearld, Badham, & Budhwani, 2016; Priest, Salts, & Smith, 2015; Short, 1998)
 Substance abuse job-related problems
 Identity with social groups known to advocate substance abuse (gangs, biker groups, etc.)
 Identity with clothing, pouches, purses, jewelry, makeup, body piercings, tattoos, and other body markings, known to be possibly associated with substance abuse

The Legal Perspective

Historically, self-induced substance abuse coincident to a criminal offense has not been considered a valid argument for claiming innocence. More recent case law, however, has blurred the legal boundaries of this premise. Over time, the courts have become more learned regarding substance abuse in criminal activity, and there have been case law findings and legislative modifications accordingly. For example, there have been modifications of sentencing guidelines reducing lengths of incarcerations for all but kingpin figures (i.e., dealers and suppliers) (see Criminal Justice Policy Foundation, www.cjpf.org/mandatory-minimums/). In general, mitigation can be considered if substance intoxication interfered with the criminal intent (“mens rea”) necessary for the offense to have occurred. The line between the position that substance abuse constitutes a nondeliberate, disease process, versus the position that all substance abuse at some level represents an illegal act are still contentious points of adjudication. Information relevant to substance abuse that is to a defendant’s advantage can be presented as mitigation considerations during sentencing. The usual argument is that a current incidence of criminal behavior was a function of substance dependence, which is a medical condition that was not entirely the fault of the defendant. If the substance abuse is controlled through appropriate intervention, the argument goes, the future risk of violence is reduced. In contrast, prosecutors aim to show that the substance abuse was intentional and deliberate or was utilized by the defendant to make the pangs of committing the crime more palatable for the offender. This argument

is that substance abuse ramps up false courage or suppresses the fear to commit a crime. In most criminal settings, however, offender denial of substance use is more typical. The defendant usually attempts to avoid the appearance that an offense was in any way instigated or compromised by substance use.

Forensic clinicians will encounter substance abuse denial at any point in criminal adjudication, and for that matter after adjudication and during stipulated participation in treatment/rehabilitation programs. Following criminal conviction, the issue of substance abuse has become a common mitigation plea by defense counsel in sentencing consideration proceedings. The same proposals can be offered in violation of probation/parole hearings (Bonczar, 1997; Lawrence, 2015; Monahan, Metz, & Garrett, 2018; Mumola, 1999). Substance abuse-involved defendants are stipulated to maintain abstinence, submit to urinalysis, and/or be involved in ongoing substance abuse treatment. In some instances, defendants may be required to wear electronic monitoring devices. Clinicians and others who work with these populations on a treatment basis are regularly confronted with incidents of deception regarding renewed/relapse substance abuse. In these situations, clinicians are frequently called upon to conduct follow-up assessments to generate corrective recommendations.

Following criminal disposition, there can be additional, separate civil legal actions. Civil courts may also become involved in litigation involving substance abuse considerations. Civil actions can involve substance abuse considerations by plaintiff(s) or defendant(s). Substance abuse can have a bearing on complicity and whether monetary or other damages are awarded. Denial/evasion is common by litigants on both sides. In many instances, fakers attempt to simulate a non-intoxicated state, or hide symptoms, at least for a pertinent timeframe (i.e., time of offense, prior to sentencing, or prior to civil court findings). As noted, increasingly, the courts are taking into consideration a history of substance addiction as having a bearing on deliberations (Federal Drug Offenses: Departures from Sentencing Guidelines and Mandatory Minimum Sentences, Fiscal Years 1999–2001, 2003).

The increasing social problem of underage consumption of alcohol is an example of the growing magnitude of substance abuse in our culture (Centers for Disease Control and Prevention [CDC], 2016; McKinney, 1999; NIAAA, 2006). In addition to adult criminal matters, substance abuse plays a significant role in juvenile delinquency (Bilchilk, 1998; Poirier, 1999) and in domestic legal matters especially child abuse, spouse abuse, and elder abuse (Poirier, 1996; Priest, Salts, & Smith, 2015).

Detection Methods

One means of assessing the extent of denial is to compare self-reports with urinalysis findings. In an earlier study, O'Neil, Wish, and Visser 1990 comparing urinalysis findings with self-report from populations in U.S. metropolitan areas cities found that reported recent drug abuse was underestimated by approximately one half. More recent studies, however, have suggested that underreporting is commonplace, but there are qualifying issues, such as the substances in question. For example, there is less underreporting with tobacco, alcohol, and marijuana (Jacob et al., 2018; Hunt et al., 2015; Kilpatrick, Howlett, Sedgwick, & Ghodse, 2000; Rosay, Najaka, & Hertz, 2007). There are also jurisdictional differences, differences by age groups, cultural groups, and differences according to personality findings as determined by psychological testing. Illicit substances have transitory availability in different geographic regions and at different periods of time. Substances of

Table 21.3 Substances of Abuse Availability Determinants

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1. Proximity to coastal sites having proximity to countries producing illicit substances
 2. Proximity to vehicle travel routes between sources and geographical high drug usage areas (e.g., Florida to New York and Mexico to California corridors)
 3. Local fads and pop interests usually generated surreptitiously by late adolescents/young adults
 4. Media hype particularly to include popular song content and themes, manner of dress and accoutrements (jewelry, body adornments and piercings, hair style, etc.)
 5. Supply and demand controlled by production activity of clandestine laboratories and by distribution and trafficking of illicit substances
 6. Ethnic subgroup preferences dictated by financial factors and ethnic-based psychological preferences for the effects of certain substances
 7. Effectiveness of local police undercover activity and law enforcement initiatives
-

abuse availability are a complex phenomenon related to a host of determinants. An array of these determinants is presented in [Table 21.3](#).

Forensic-related data gathering involves an attempt to collect all available, pertinent, legal, and clinical reports. These are the same data typically collected by defense and prosecuting attorneys. Clinicians need to be mindful that attorneys may be selective in collecting background data, and they may be still further selective in what they provide to independent evaluators. Depending on their posture in litigation proceedings, attorneys may withhold data they have obtained. Forensic evaluators must use careful judgment in collecting such materials. Evaluators should maintain their own chronological list of potential collateral data. The collection effort should be well documented as to what was accessed, the source, pertinent dates of data requests, subsequent receipt, or lack thereof. As necessary, access attempts that are unsuccessful, incomplete, or judged to be compromised should be logged and identified properly as to *incompleteness*, being *limited*, or being *compromised*.

As with any forensic assessment, the evaluator does not want to leave open the possibility of his or her effort to conduct a complete and professional assessment to be incomplete, tainted, or biased. The forensic evaluator wants to assiduously avoid being subject to critique or suggestion that the expert was neglectful, biased, or otherwise posturing for one side or the other. The data search, as relevant, should include questioning regarding substance-related behavior and events from significant others, neighbors, bartenders, friends, family members, etc. Supporting material should be collected if available and logged (e.g., DUI arrest reports, emergency room contacts, mental health treatment records, etc.). If available, prior and current urinalysis records should be accessed and reviewed carefully. The evaluator should always review the material before questioning the individual being evaluated. If, during an assessment, new information is accessed, then the forensic clinician should consider additional sessions with the examinee to be able to further review any issues that may arise.

We emphasize that all the foregoing data collection activity must comply with applicable ethical standards regarding confidentiality (i.e., state, federal, Health Insurance Portability and Accountability Act [HIPAA], APA, and relevant Professional Boards and Associations). The compliance concern, in some instances, may be eased by “court order,” but it is the evaluators’ responsibility to resolve any ethical contradictions or inconsistencies. Skilled cross-examining attorneys will take every opportunity to discredit “expert witness” testimony.

Substance Abuse Screening Tools

There are a number of substance abuse screening inventories that have been developed for non-forensic application. These screening tools are readily available as described below. The forensic clinician must recognize the very limited application of these screening tools in forensic work. One advantage is that they may be conveniently available in a defendant's case file, but all the screening tools listed below have been developed primarily for health assessment purposes. They are intended to be utilized by individuals and significant others who are interested in health prevention and health intervention. The tools are useful, assuming the candid cooperation of individuals responding to the tools. Thus, they are not usually applicable in circumstances where lack of cooperation or candor is likely. This would include virtually all forensic circumstances.

Unless there is an incident involving a substance abuse-related medical emergency, criminal act, or arrest, substance abuse issues often go unrecognized. Effective health-care begins with early education and identification of potential substance abuse problems which, in turn, translates into earlier treatment. Early identification is particularly important with adolescents. A significant factor in this prevention lapse is the lack of early, accurate measures of identifying actual or emerging substance abuse (Retrieved from (n.d.) www.integration.samhsa.gov/clinical-practice/substance_use).

The NIDA (2018) provides a helpful Chart of Evidence-Based Screening Tools and Assessments for Adults and Adolescents (Retrieved from www.drugabuse.gov/nidamed-medical-health-professionals/tool-resources-your-practice/screening-assessment-drug-testing-resources/chart-evidence-based-screening-tools).

SAMHSA has also provided a list of screening tools utilized by grantees retrieved from (n.d.) www.integration.samhsa.gov/clinical-practice/screening-tools and from (n.d.) www.integration.samhsa.gov/clinical-practice/substance_use.

In an effort to highlight the need for continuing research regarding clinical diagnosis, [Section III](#) of DSM-V (American Psychiatric Association, 2013) suggests a number of “emerging measures” to be utilized during initial patient interviews. The purpose is to document the initial symptoms presented by the patient utilizing established assessment instruments. There are screening tools available for both adults and adolescents. For adolescents alone, there are in excess of 70 screening tools for substance abuse available. Many of the instruments are available from online sites, some have associated costs. Some of the questionnaires can be accessed and scored online. [Table 21.4](#) summarizes a number of these screening instruments. These data are provided as background information to the forensic evaluator who is likely to encounter the screening instruments during a substance abuse assessment. The instruments, again, are *not specifically* intended as measures for forensic purposes.

Structured Interview Formats

The history of clinical interviewing within a mental health situation has a long history in terms of format and applicability. Our current interest is the structured interview versus unstructured interview format (Spitzer, 1983, 1992). The use of a structured interview format was prompted in part by the desire to train non-clinicians to conduct diagnostic procedures. The efficacy of structured interview formats is thereby limited by the skills of the administrator, but also the format, which can involve over the telephone interviews

Table 21.4 Substance Abuse Screening Instruments

1. **Addiction Severity Index–Multimedia Version (ASI–MV)**
An online, client-self-administered comprehensive behavioral health assessment tool which provides an overview of the client's functioning.
2. **AUDIT**
Audit is evidence-based drug and alcohol assessment tool developed by the World Health Organization (WHO). It asks only ten simple questions. Behavioral Self-Control Program for Windows (BSCPWIN). (For Internet administration, see Sinadinovic, Wennberg, & Berman, 2011.)
3. **Brief Screener for Alcohol, Tobacco, and other Drugs (BSTAD)**
This tool consists of frequency of use questions to identify risky substance use by adolescent patients. The accompanying resources assist clinicians in providing patient feedback and resources for follow-up.
4. **Behavioral Self-Control Program for Windows (BSCPWIN)**
Drinkers were randomly assigned to receive a computer-based version of behavioral self-control training either immediately after pre-treatment assessment or after a 10-week waiting period.
5. **CAGE**
 - Have you ever felt you should Cut down on your drinking?
 - Have people Annoyed you by criticizing your drinking?
 - Have you ever felt bad or Guilty about your drinking?
 - Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (eye-opener)?

Scoring:
Item responses on the CAGE are scored 0 or 1, with a higher score an indication of alcohol problems. A total score of 2 or greater is considered clinically significant.
6. **CAGE-AID (PDF, 30KB)**
CAGE Questions Adapted to Include Drug Use (CAGE-AID)
 1. Have you ever felt you ought to cut down on your drinking or drug use?
 2. Have people annoyed you by criticizing your drinking or drug use?
 3. Have you felt bad or guilty about your drinking or drug use?
 4. Have you ever had a drink or used drugs first thing in the morning to steady your nerves or to get rid of a hangover (eye-opener)?
7. **Clinical Opiate Withdrawal Scale (COWS)**
Eleven-item scale to assess common opiate withdrawal symptoms.
The Clinical Opiate Withdrawal Scale (COWS) is an 11-item scale designed to be administered by a clinician. This tool can be used in both inpatient and outpatient settings to reproducibly rate common signs and symptoms of opiate withdrawal and monitor these symptoms over time. The summed score for the complete scale can be used to help clinicians determine the stage or severity of opiate withdrawal and assess the level of physical dependence on opioids.
8. **CRAFFT**
The CRAFFT Screening Interview is a behavioral health screening tool designed for children under the age of 21. Recommended by the American Academy of Pediatrics' Committee on Substance Abuse for use with adolescents. The screening tool consists of a series of six questions intended to identify adolescents who may have simultaneous risky substance-use problems and psychiatric concerns.
9. **Drinker's Check-Up/Follow-Up Drinker's Check-Up (DCU/FDCU)**
Sixty-one problem drinkers were randomly assigned to either immediate treatment or a four-week wait-list control group. Treatment consisted of a computer-based brief motivational intervention, the Drinker's Check-up (DCU). The DCU seems to be effective in enhancing problem drinkers' motivation for change.
10. **Drug Abuse Screen Test (DAST-10)**
The Drug Abuse Screen Test (DAST-10) was designed to provide a brief, self-report instrument for population screening, clinical case finding, and treatment evaluation research. It can be used with adults and older youth. The DAST may be used in a variety of settings to provide a quick index of drug abuse problems (see Tiet, Leyva, Moos, & Smith, 2017). The DAST-10 is a 10-item self-report instrument that has been condensed from the 28-item DAST. It was copyrighted in 1982 by Harvey Skinner, PhD, and the Centre for Addiction and Mental Health, Toronto, Canada.

(Continued)

Table 21.4 (Continued) Substance Abuse Screening Instruments**11. Drug Abuse Screen Test (DAST-20: Adolescent Version)**

Drug Abuse Screening Test (DAST)—Adolescent Version. The instrument instructions state, “The following questions concern information about your potential involvement with drugs not including alcoholic beverages during the past 12 months. Carefully read each statement and decide if your answer is “Yes” or “No.” Then, circle the appropriate response beside the question.”

12. DUDIT The Drug Use Disorders Identification Test (DUDIT)

An 11-item self-report questionnaire developed to screen individuals for drug problems. The measure, developed in Sweden and evaluated there with individuals with severe drug problems, has not been evaluated with less severe substance abusers or with clinical populations in the United States (see Voluse et al., 2012).

13. NIDA Drug Use Screening Tool: Quick Screen (NMASSIST)

NMASSIST is a screening tool for drug use in general medical settings. Also called NIDA Quick Screen, it is a web-based interactive tool that guides clinicians through a short series of screening questions and identifies risky substance use in adult patients. The accompanying resources assist clinicians in providing patient feedback and arranging referral for specialty care.

14. Opioid Risk Tool (ORT)

A brief, self-report screening tool designed for use with adult patients in primary care settings to assess risk for opioid abuse among individuals prescribed opioids for treatment of chronic pain. Patients categorized as high-risk are at increased likelihood of future abusive drug-related behavior. The ORT can be administered and scored in less than 1 minute and has been validated in both male and female patients, but not in non-pain populations.

15. Screening to Brief Intervention (S2BI)

Screening to Brief Intervention (S2BI). Developed at Boston Children’s Hospital with support from the National Institute on Drug Abuse. It is best used in conjunction with “The Adolescent SBIRT Toolkit for Providers” mass.gov/maclearinghouse (no charge). There are 3–7 items, depending on responses. Asks if respondent has used tobacco, alcohol, marijuana, and other drugs ([www.mcpap.com/pdf/S2BI%20Tool kit.pdf](http://www.mcpap.com/pdf/S2BI%20Tool%20kit.pdf)).

16. Tobacco, Alcohol, Prescription Medication, and other Substance use (TAPS)

The Tobacco, Alcohol, Prescription medication, and other Substance use (TAPS) tool was developed to address the need for a brief screening and assessment instrument that includes all commonly used substances and fits into clinical workflows.

17. Patient Health Questionnaire-9 (PDF, 131KB)

Nine-item self-report tool to assess depressed mood in the past 2 weeks. (www.drugabuse.gov/nidamed-medical-health-professionals/tool-resources-your-practice/screening-assessment-drug-testing-resources/chart-evidence-based-screening-tools)

18. Modified Single Alcohol Screening Questionnaire (MSASQ)

MSASQ is an alcohol harm assessment tool that consists of one question from the full alcohol use disorders identification test (AUDIT). This single question test was developed for use in emergency departments.

Questions

Scoring system—Your score 0 1 2 3 4

How often have you had 6 or more drinks if female, or 8 or more if male, on a single occasion in the last year?

Never

Less than monthly

Monthly

Weekly

Daily or almost daily

M SASQ Scoring:

- A total of 0 to 1 indicates lower risk drinkers.
- A total of 2 to 4 indicates increasing or higher risk drinkers.
- An overall total score of 2 or above is MSASQ positive.

(Continued)

Table 21.4 (Continued) Substance Abuse Screening Instruments**19. TAPS**

The Tobacco, Alcohol, Prescription medications, and other Substance [TAPS] Tool consists of a 4-item screening for tobacco use, alcohol use, prescription medication misuse, and illicit substance use in the past year and brief assessment (modified version of the ASSIST-Lite (Ali et al., 2013). This instrument is used to assess primary care patients for tobacco, alcohol, prescription drug, and illicit substance use and problems related to their use and is available for self-administration and interviewer-administration to detect substance use, subthreshold substance use disorder (i.e., at-risk, harmful or hazardous use), and substance use disorders. The TAPS Tool was developed and validated so that health systems will have the option of using either a screen or a combined screen and brief assessment tool, as directed by the needs of their patient populations and clinical settings (McNeely et al., 2016). The instrument is available for use in the public domain; research was supported by the National Institute on Drug Abuse.

or computer-assisted administrations. These procedures offer the advantage of efficiently obtaining responses to diagnostic inquiries, but hardly approach the level of skeptical sophistication necessary with substance abusers involved in forensic evaluation matters who are highly motivated to be deceptive.

The use of a structured interview format with the DSM series began with DSM-III (SCID) (First et al., 1995; Nordgaard, Revsbech, Saebye, & Parnas, 2012; Spitzer, Williams, Gibbon, & First, 1992; Williams, 1992). DSM-III marked the beginning of SCID because prior structured diagnostic instruments predated the DSM-III criteria. The SCID-II was a companion instrument, designed to evaluate DSM-III-R personality disorders. The limitations of the utility of SCID with the diagnosis of substance abuse disorders were addressed by Kranzler, Kadden, Babor, Tennen, and Rounsaville (1996).

An elegant example of the structured interview format with psychiatric diagnoses was embodied in the World Health Organization (WHO) World Mental Health surveys (Haro et al., 2006). Kessler (2010) has documented the history of this enormous effort. Essentially, the work began with the Diagnostic Interview Schedule (Robbins, 1981; Robbins, Helzer, Croghan, & Radcliffe, 1981). Later the Composite International Diagnostic Interview (CIDI) (Kessler, 2010; Robbins et al., 1988), which was derived from the Diagnostic Interview Schedule and incorporated the DSM-III-R and the ICD-10 diagnoses. The National Comorbidity Survey (NCS) was mandated by Congress (Kessler et al., 1994; Kessler & Merikangas, 2004). The survey was designed to study the comorbidity of substance use disorders and psychiatric disorders in the United States. The NCS format was a structured psychiatric interview administered to a national sample in the United States and was the first such extensive effort. An even broader effort with the structured interview format was the CIDI (Cottler & Compton, 1993; Cottler et al., 1997; Kessler et al., 1994; Kessler, 2010; Kessler & Üstün, 2004). A history of the CIDI is provided by Kessler (2010). There is a paper and pencil version of the CIDI interview which can be key punched into a computer program. compact disc-read only memory (CD-ROM) training materials are available that include supervisor instructions to monitor the quality of data collection. The NCS-R (Kessler & Merikangas, 2004) was a follow-up to the NCS. Neither survey included all the DSM axis I or axis II disorders. Nevertheless, the data reflected that mental disorders including the substance abuse disorders were prevalent in all the participating countries. The data also reflected high levels of impairment secondary to mental disorders, and that the majority of those affected went untreated.

Merikangas et al. (2010) and Swendsen et al. (2012) reported substance abuse prevalence data for U.S. adolescents based on data from the NCS-Adolescent Supplement. Kilpatrick

and colleagues conducted a separate structured interview approach with adolescent substance abusers (Kilpatrick et al., 2000, 2003; Kilpatrick & Howlett 2000). The sample of adolescents were interviewed by telephone. These studies investigated several comorbid parameters with adolescent substance abuse. While these data from structured interview formats are contributing to our understanding of substance abuse baseline statistics, the data are only of limited value to our primary interest of deception related to substance abuse.

Standardized Psychological Test Applications

Over years of usage, only a small number of formal psychometric scales have been demonstrated to be empirically useful with respect to substance abuse and forensic assessment of deception and denial. Once more, the thwarting factor is the simple issue of honesty by assessees. During an evaluation, once the clinician suspects feigning, a common follow-up is the application of still more test instruments to try and confirm suspected deception. In the end, a conclusion about the likelihood of deception remains only a “best guess” hypothesis. Such a result is frustrating, but such is the current state-of-the-art of deception analysis. The usefulness of psychological tests in forensic settings, as well as in correctional settings continues as a longstanding area of controversy (Edens, Cruise, & Buffington-Vollum, 2001). One trend since the 1980s has been to assess established variables associated with substance abuse, such as age range, chronic pain, trauma, depression, social isolation, and neurological events. This is in contrast to a prior tradition of attempting to identify select measures of personality variables or variables indicative of deceptive reporting as related to substance abuse. Summarized and updated below are a number of psychometric measures that the authors are familiar with, and that the literature cites as having utility in forensic assessment of deception related to substance abuse. The list is not intended as being inclusive, nor as being applicable to every forensic circumstance. Rather, it is intended as a basal reference point for psychological measures that forensic evaluators have drawn on in the assessment of the forensic problems related to substance abuse.

Historically, one of the mainstay psychometric instruments has been the **Minnesota Multiphasic Personality Inventory** in its evolving iterations (MMPI, MMPI-2, MMPI-2-RF, and MMPI-A). In July 2019, the University of Minnesota announced in a press release the development of the MMPI-3. The announcement was craftily worded that the MMPI-3 would be, “the next generation of the MMPI instrument suite.” Pearson Assessments would continue as the exclusive distributor with responsibility for marketing the MMPI products.

Most clinicians will review an entire MMPI profile, but typically, only specific subscales and derived scales address issues of acknowledged substance abuse and likelihood of faking behavior. In a recent study (Lincourt, Tarescavage, Burchett, & Glassmire, 2019), forensic inpatients compared a self-report of substance abuse history during clinical interviews to responses on the MMPI-2-RF, Substance Abuse Scale. Patients who endorsed alcohol and cannabis use in clinical interviews frequently denied such abuse on the Substance Abuse Scale. There was greater concurrence on the two measures regarding prescription drug abuse. The study also reported greater incremental validity of the Substance Abuse Scale in anticipating substance abuse problems compared to other MMPI-2-RF scales. The MMPI-A incorporates two scales to assist with the assessment of substance abuse in adolescents (Pope, Butcher, & Seelen, 2000). These scales are the Alcohol or Drug Problem Scale and the Alcohol or Drug Problem Acknowledgment Scale. There have been studies

using psychometrics correlating psychoactive substance abuse with a variety of personality characteristics, particularly including personality disorder symptoms (Lather, Vasudeva, & Verma, 1997; Sigurdsson & Gudjonsson, 1995). It is difficult, however, to know precisely what these findings implicate. Correlation is not causation, and once illicit substance abuse becomes an established pattern, the abuser, by necessity, falls into a behavioral pattern that may partially explain the psychometric scale elevations indicative of the personality issues.

Another widely used series of psychological instruments are the **Millon Inventories** (Millon Pre-Adolescent Clinical Inventory; Millon Adolescent Personality Inventory; MBMD™—Millon Behavioral Medicine Diagnostic; MCCI™—Millon College Counseling Inventory; MCMI-III™—Millon Clinical Multiaxial Inventory; and MIPS® Revised—Millon Index of Personality Styles Revised) (Millon, 1992). As with all of the psychometric instruments described in this section, the validity of the MCMI-III in applied circumstances is not devoid of controversy (Daubert & Metzler, 2000; Hsu, 2002; Rogers, Salekin, & Sewell, 2000). Nevertheless, the instruments afford the clinician the advantage of a self-report format and computerized scoring and interpretation.

The **Personality Assessment Inventory** (PAI; Morey, 1991, 2007) has been touted as having psychometric advantages over other instruments (Rogers, Omduff, & Sewell, 1993). Fals-Stewart (1996) noted that the PAI items can be answered on a four-point Likert format (e.g., very true, mostly true, slightly true, and false), which offers quantitative response variability as opposed to the more limited dichotomous (i.e., true or false) scale that is the more common format. Second, the PAI scales do not share like items with the MMPI-2 and MCMI-III. The argument is that this affords more discriminative validity to the PAI. The PAI has two scales relevant to substance abuse deception, Alcohol Problems and Drug Problems. The PAI also has a validity scale, the Positive Impression scale, that is designed to detect the degree of positive impression management by subjects. Fals-Stewart (1996) observed that unlike the non-obvious items on the MMPI-2 and the MCMI-III drug and alcohol subscales, the PAI subscale items were all obviously related to substance abuse issues.

This same concern regarding subscale items was also found in another self-report instrument, the **Michigan Alcoholism Screening Test** (Selzer, 1971). The Michigan Alcoholism Screening Test was evaluated by Shields, Howell, Potter, and Weiss (2007) in a meta-analytic study, and the authors found it to be generally reliable for research models. The implication is that the PAI and the Michigan Alcoholism Screening Test may be useful in settings where substance-abusing patients are motivated to seek help and whose credibility can be generally assumed. When credibility cannot be assumed, these instruments will have significant limitations. The original PAI normative data (Morey, 1991) were derived exclusively with self-identified substance abusers, and this imposed an obvious and significant limitation on the applicability of the instrument.

Fals-Stewart (1996) investigated the use of the PAI with substance abusers. One treatment group was asked to respond honestly ($N = 59$), another group was instructed to respond defensively ($N = 59$), a third group was a nonclinical control group ($N = 59$), and a fourth group was referred by the criminal justice system ($TV = 59$). The findings indicated that the PAI validity scales (Drug Problems and Alcohol Problems) designed to measure positive dissimulations were prone to making false-positive and false-negative errors depending on the cut-off used. The writer concluded that the findings were expected, given the high face validity of the content of the subscale items. The combined foregoing issues with the PAI warrant caution when using the PAI with substance abusers when there is any question

of deception potential. In a follow-up study with a similar experimental paradigm, Fals-Stewart (1996) used a classification analysis (i.e., a method similar to discriminant function analysis). An optimally weighted multivariate combination of the Drug Problems, Alcohol Problems, and Positive Impression Scale was developed to more accurately classify the experimental groups. This analysis resulted in an 82% correct identification of the groups.

A third cross-validation study (Fals-Stewart & Lucente, 1997) replicated the design and used two separate sample groups to reduce *validity shrinkage* (i.e., caused by sampling bias and random variability by not using an independent comparative sample). In this study, the overall accuracy of the PAI subscales differentiating the experimental groups fell to 68%. The study did identify <80% of the substance abusers with standard instructions (i.e., with subjects in treatment and motivated not to dissimulate). The findings underscored the difficulties of second-guessing the responses of forensic populations who are presumably motivated to dissimulate both in actual forensic application and in empirical studies. In both instances, and assuming no independent source of verification (e.g., urinalysis), there are significant difficulties accurately discerning deceit with this population. Magyar et al. (2012) assessed 331 male offenders who were court ordered into substance abuse treatment. Each participant completed a PAI. Of the PAI scales anticipated to be relevant to this population (Antisocial features, Borderline features, Disruptive Behavior, and Aggression) only the Aggression scale reflected incremental validity for noncompliant behavior. The authors stressed the importance of examiners exercising caution regarding the relative dimensional weight given to PAI subscales with an offender population. Edens and colleagues (Caperton, Edens, & Johnson, 2004; Edens et al., 2001; Edens, Poythress, & Watkins-Clay, 2007) utilized the PAI and other instruments with correctional facility populations. The authors observed that while the test measures were effective in differentiating among research groups of controls and simulators (i.e., of deception) there was less accuracy with actual correctional populations.

The **Structured Inventory of Reported Symptoms** (SIRS) (SIRS-2; Rogers, Sewell, & Gillard, 2010). The theoretical and empirical research foundations of the SIRS instruments are impressive (see Rogers, Jackson, Sewell, & Salekin, 2005; Rogers, 2018), particularly when compared to many of the older psychometrics. The SIRS consist of structured interview formats. It is designed to assist with the detection of malingered psychopathology and associated response styles. The SIRS are recognized as potent tools for the forensic clinician (Kocsis, 2011). Nonetheless, the issue of discriminant sensitivity between the original and the new SIRS instruments has been called into question (Tarescavage & Glassmire, 2016).

Psychopathy Checklist-Revised (PCL-R; Hare, 1980, 1985; Hart, Hare, & Harpur, 1992; Hare Psychopathy Checklist: Youth Version; Forth, Hart, & Hare, 1990). These are widely utilized measures relying on characteristics of psychopathy that may or may not be associated with substance abuse. The PCL versions have been applied across a number of cultural settings (Neumann, Johansson, & Hare, 2013; Storey, Hart, Cooke, & Michie, 2016). The PCL instruments may be useful in some settings as forensic aides when used as intended.

The **Substance Use Risk Profile Scale** is a recent model developed with an adolescent population (Woicik, Stewart, Pihl, & Conrod, 2009). Studies with adults and different cultures are pending. The Substance Use Risk Profile Scale consists of a brief, self-report questionnaire of 23 items and assesses four validated risk factors known to be associated with substance misuse (impulsivity, sensation seeking, anxiety sensitivity, and hopelessness).

Substance Abuse Prevention and Treatment

Substance abuse prevention approaches have advanced to national and international promotions prompted by escalating and alarming prevalence and mortality rates. Simple poster presentations by interested local advocates have been replaced by large-scale multimedia promotions. There are any number of human maladies that can overlay the problem of substance abuse. Some of the more obvious include traffic fatalities, delinquency, family violence, social dissension, and all categories of crime. Any of these areas can be arguments for efforts directed at substance abuse prevention and treatment. Nation et al. (2003) identified nine characteristics of effective prevention efforts. These characteristics included:

1. Comprehensiveness
2. Varied teaching methods
3. Provided sufficient drug dosage (methadone maintenance)
4. Provided opportunities for positive relationships
5. Were theory driven
6. Were appropriately timed
7. Were socio-culturally relevant
8. Included outcome evaluation
9. Involved well trained staff

The NIDA provides a series of no cost, online available Research Reports (see www.drugabuse.gov/publications/finder/t/162/research-reports) on different topics regarding substance abuse. These report-titles include: Cocaine; Common Comorbidities with Substance Abuse; Heroin; MDMA(Ecstasy) Abuse; Inhalants; Hallucinogens and Dissociative Drugs; Human Immunodeficiency Virus/AIDS; Marijuana; Inhalants; Medications to Treat Opioid Use Disorder; and Methamphetamine.

Substance abuse treatment begins with identification of a problem, detoxification, and stabilization as initial interventions. From there and assuming user commitment to maintain abstinence, or court mandate, the primary treatment approaches are opioid maintenance, court-mandated confinement with drug treatment, residential treatment communities, and drug-free outpatient programs. In all these programs, abstinence is monitored usually with urinalysis. Urinalysis producing positive findings is met with appropriate intervention to include penalties.

In addition to problems with addiction, abusers using injection as a mode of ingestion (opioids and stimulants) are subject to infection. Infection can include bacterial and viral-based agents to particularly include human immunodeficiency virus. Needle sharing and sexual activity are the prime risk factors for human immunodeficiency virus. Methadone maintenance as a treatment modality has been demonstrated to reduce needle-sharing (Hubbard, Craddock, & Anderson, 2003). Several medications have been developed to treat opioid addiction (NIDA, 2018). These medications act on opioid receptors and include: (1) *agonists*, which activate opioid receptors (e.g., methadone), (2) *partial agonists*, which have a diminishing effect on opioid receptors (e.g., buprenorphine), and (3) *antagonists*, which block opioid receptors (e.g., naltrexone). Use and application protocols of these medications are intended for use by qualified practitioners with specific training and inappropriate settings. The protocols are accompanied by recommendations for ancillary treatment measures usually involving ongoing support modalities in specialized programs.

Substance Abuse, Deception, and the Promise of Neuroimaging

From the beginning, an emphasis in this chapter has been how deception is an integral aspect of every activity at every level of the substance abuse world. In other chapters, we have addressed the potential of neuroimaging techniques as tools in the uncovering of deceptive behavior. One neuroimaging technique related to detection of deceptive behavior involves continuous EEG (electroencephalograph) monitoring of wave activity as related to exposure to specific sensory stimuli (Key, Dove, & Maguire, 2005). The P300 component of the event-related potential (ERP) and functional magnetic resonance imaging (fMRI)³ have been frequently utilized (for review, see Rosenfeld, 2011; Rosenfeld et al., 2012). EEG recordings measure cortical electrical activity on the surface of the brain. The procedures are essentially noninvasive and are relatively inexpensive. Electrodes are placed in pairs on the scalp and named according to the area of placement: frontal, central (sulcus), parietal, temporal, and occipital. The EEG records differences in electrical potentials (voltage) between the electrode pairs. Interpretation of the mappings of these waveforms is still relatively primitive and limited to neural surface activity. Nevertheless, these recordings of brain electrical activity, during stimulus-relevant ERPs, have become important datum for investigating the brain's role in the processing of cognitive events. Empirical reading of EEG scan data with respect to accuracy and behavior interpretation is steadily improving with technological developments refining interpretation of the scan data well beyond mere visual examination of event-related potentials (ERP) recordings (Ramele, Villar, & Santos, 2019).

The waveform rhythms are instigated by the controlled external sensory stimuli of the experimental design (e.g., auditory or visual signals). The recorded rhythms are interpreted according to frequency and amplitude. The amplitudes recorded by the scalp electrodes are in the range of microvolts (μV or 1/1,000,000 of a volt). The classification of waveform frequencies is *alpha* (7.5–13 Hz), *beta* (13–30 Hz), *delta* (0.5–4 Hz), *gamma* (30–70 Hz), and *theta* (4–7.5 Hz). Each of these frequency types is associated with awareness states from full wakefulness to deep sleep.

The ERP waveform voltage amplitudes are identified as being positive or negative and by degree of latency (i.e., time of wave peak post stimulus onset). For example, P300 would identify a positive peak that occurred 300 milliseconds post stimulus onset. For several decades, P300 activity has been known to be an (ERP) component related to decision-making behavior (Key et al., 2005; Polich, 1991, 1997). Parietal lobe electrodes are where P300 activity is most strongly evidenced and is attributed to attentional allocation.

The P300 ERP technique as applied to “guilty knowledge” situations was first described by Rosenthal et al. (1988) and has been replicated, modified, and critiqued in a number of subsequent studies. Initial experimental designs of the P300 studies incorporated the Concealed Information Test (CIT) of Lykken (1959). The CIT is also known as the “guilty knowledge test.” In the CIT design, the S is presented with a series of items or questions with each series having a target item and incorrect items. A (P300) ERP response to an item indicates recognition. The P300 ERP technique as applied to “guilty knowledge” situations was first described by Rosenthal et al. (1988) and has been replicated, modified, and critiqued in a number of subsequent studies.

³ MRI is a noninvasive imaging technology that produces three-dimensional anatomical images. The technology excites and then detects movement of water protons in living tissue. fMRI detects changes in blood oxygenation flow. Neural activity in cortical areas increases blood flow to that area. fMRI produces colored maps reflecting activated cortical areas.

Verschuere, Rosenfeld, Winograd, Labkovsky, and Wiersema (2009) emphasized that the recognition is based on memory detection, which is not detection of deception. To date, there is no specific physiological analog to deception. In essence, what is conventionally measured in lie detection is physiological reaction (anxiety arousal) that accompanies lying behavior. The problem is that this level of anxiety arousal varies from one individual to another, from one moment to another, and some characterological types (e.g., psychopathy) can mask it significantly or completely. Verschuere et al. (2009) described the P300 procedure as a memory detection test in that it reflected memories stored in the brain. This finding makes it applicable to assessing witness or defendant recognition of critical forensic data. A P300 response may indicate awareness of vital information related to a crime scene. The hypothesis has been tested under laboratory conditions of Ss responding either truthfully or deceptively to stimuli, for example, recognition or not of one's name in a series of names.

Cavanagh and Frank (2014) linked EEG frontal lobe theta activity in their paradigm to external stimuli that instigated "cognitive control." The authors further described that this activity spread to "disparate brain regions." Harper, Malone, and Iacono (2019) cited research associating specific EEG prefrontal cortical activity with clinical histories of problematic substance abuse. According to the authors, prior research evidence linked a reduction in parietal P300 amplitude to problematic substance abuse, and the authors current research determined that midfrontal lobe theta activity (associated with attentional allocation) and parietal delta activity (stimulus/response updating) were also involved.

More recently, reviewed studies utilizing the P300 technology in the detection of concealed information. The author described a number of potential circumstances that the technique may prove useful with. For example, situations of defendant malingering due to cognitive deficits and witness facial recognition in line-ups. Additionally, based on laboratory mock-up procedures, the technique has promise in anti-terror matters. One of the persistent issues with the original P300 CIT design has been deliberate countermeasures employed by examinees during testing trials. Counter-measures involve voluntary efforts to defeat the design intent. This could include deliberately responding with a verbal response in a contradictory manner to an affirmatory stimulus item or deliberately pressing a wrong stimulus button. A number of experimental designs have attempted to overcome this issue (Lukács et al., 2019; Olson et al., 2018; Rosenfeld et al., 2008). In 2008, Rosenfeld et al. introduced the Complex Trial Protocol. The Complex Trial Protocol employs a series of embedded target/non-target stimuli in rapid succession under mock-scenario laboratory conditions.

Vega et al. (2016) described the use of functional near-infrared spectroscopy (fNIRS) as an advanced technique that detects cortical hemodynamic variations induced by neural activations. The technique has the advantage of producing both temporal resolution and spatial resolution readings compared to other methods. Additionally, fNIRS is more economical. The procedure produces colorized topographical images of cortical activation changes; it has been used to monitor inhibition-related cortical areas during simulated deception in social cognition studies.

Li et al. (2018), described a study employing fNIRS in an experimental study of simulated interrogation. The simulated interrogation was computer-administered. The participants were divided into two groups: deceptive and non-deceptive. The deceptive Ss were instructed to respond with a mix of truths and untruths. The untruthful group as subdivided into frequent or non-frequent liars based on the number of deceptions.

fNIRS was used to test whether monitoring inhibition-related brain regions is a feasible method for detecting both infrequent liars and frequent liars. Thirty-two participants were divided into two groups: the deceptive group (liars) and the nondeceptive group (ND group, innocents). All the participants were required to undergo a simulated interrogation by a computer. The participants from the deceptive group were instructed to tell a mix of lies and truths, and those of the ND group were instructed always to tell the truth. Based on the number of deceptions, the participants of the deceptive group were further divided into an infrequently deceptive group (IFD group, infrequent liars) and a frequently deceptive group (FD group, frequent liars). The infrequent liars exhibited greater neural activities than the frequent liars and the innocents in the left middle frontal gyrus when performing the deception detection tasks. The findings suggested that fNIRS could differentiate infrequent liars, but not frequent liars from baseline non-liars. The authors suggested that infrequent liars employed more neurophysiological activity resulting in the findings. The results suggested that using fNIRS monitoring of inhibition-related brain regions was feasible for detecting infrequent liars, for whom deception may be more effortful, and therefore more physiologically marked, but not so with frequent liars.

The potential of neuroimaging as a deception detecting tool is not without critics (Meijer & Verschuere, 2017). The criticisms are similar to those lodged against the venerable polygraph technique, which in its vagaries is now regarded as a questionable tool in any forensic application. One criticism of the neuroimaging studies is that much of the investigative work has been accomplished under laboratory conditions. That is, recruited subjects have been instructed to be deceitful or are not aware of deception being a focus of the investigation. Also, like the polygraph, neuroimaging is based on the subjects' responses to control questions. These data are then used as baseline data for neuroimaging responses. The assumption is that the baseline findings are equivalent to deception markers on the polygraph or the neuroimaging findings. Further, as yet, there are no identified neurophysiological components that specifically serve as markers of deception. An ultimate question is whether or not neuroimaging techniques offer greater deception specificity and accuracy compared to the polygraph. The data suggest that neuroimaging is superior, but not without reservation. Research is still ongoing, however, and the limits of this technology is far from having been exhausted or fully developed.

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Introduction

More than 30 years ago in discussions with John Monahan, the author of the now-classic works on dangerousness, a legal term denoting violence risk for a circumscribed period of time, the notion of accounting for deliberate deception in predictees was raised (Hall, 1987, personal communication). This query stemmed from an extensive review of the violence literature available at the time, which led to a 5-factor heuristic decision tree when conducting a risk analysis (Bandura, 1973; Berkowitz & LePage, 1967; Hall, 1982, 1984, 1987; Monahan, 1978, 1981, 1984; Wolfgang, 1978). This crude decision analysis was 75% accurate for true positives for active duty military followed prospectively for 3 months (Hall, Catlin, Boissevain, & Westgate, 1984). To reach this level of accuracy, almost 40% of the sample of over 240 servicemen had to be discarded because of breaching validity thresholds on a variety of criteria indicating deception. These criteria included scores on several measures of social desirability, the validity indicia on the Minnesota Multiphasic Personality Inventory (MMPI), admissions of faking during a post study interview, and review of unit records and unit supervisory personnel. Besides the articulation of the necessary factors to formulate a crude algorithm for predicting violence, the principle value of this research was to show deception and distortion during testing can be frequent, but is often overlooked. This seems especially true when the forensic professionals themselves may be biased or reluctant to label someone as dangerous. The prevailing notion at that time, articulated by Dr. Monahan, was that forensic professionals would not know if a predictee was successful at deception and therefore it was not necessary to test for deception, but, presaging later research, that relevant base rates concerning deception-related violence, if available, should never be ignored.

The authors of this book together have conducted well over 5000 forensic assessments during their combined 60+ years of professional experience, including many cases where dangerousness was an issue. Taking possible deception into account has been necessary to produce accurate reports and credible expert testimony. Depending on the goal, the typical defendant may have ample reason to hide or distort previous violent acts and/or exaggerate his or her positive characteristics. Other deceptive styles are discussed that have relevance for violence risk assessment (Hall, 1986, 1987, 2008; Hall & Ebert, 2002; Hall & Poirier, 2001; Hall & Pritchard, 1996; Hall & Thompson, 2007; Hall, Poirier, & Thompson, 2007). It is our belief that ignoring possible deception in forensic evaluations can fatally undermine proffered conclusions.

The assessment of dangerousness is a common activity for clinicians who work with the mentally ill (Monahan, 1978, 1992; Mossman, 1994; Quinsey, Harris, Rice, & Cormier, 2006; Singh, Grann, & Fazel, 2011). Violence risk assessment is part of a variety of judicial proceedings, such as juvenile and domestic matters, civil commitment, pretrial, pre and post sentencing status of criminal defendants, conditional-release of hospitalized patients, and parole and

probation status of defendants. In the authors' jurisdictions, a violence risk assessment is a requirement if an exculpating disorder is found in an evaluation for criminal responsibility.

Early clinical observations by forensic professionals suggested that minimizing and denying dangerousness was seen as a pervasive phenomenon, but faking bad, pretending to be more dangerous than one's true level of violence potential, was not seen as commonly occurring in forensic cases (Kutash, Kutash, Schlesinger, & Associates, 1978; Monahan, 1981). Faking bad for dangerousness, when it did occur, appeared in association with the presentation of serious mentally ill (SMI) and a desire to receive psychiatric hospitalization as opposed to the harsh conditions of prison incarceration. No measures specific to the various types of deception were available in the 1970s and 1980s except for embedded measures of validity in personality, such as the MMPI, California Personality Inventory (CPI), and 16 Personality Factors (16PF).

Hall (1987) and Hall and Ebert (2002) studied deliberately fabricated accounts of violence. Over 1000 military personnel were asked to write a credible account of fictitious violence from their life experiences, as well as construct a list of their self-reported basal violence. Themes of faked violence fell into four distinct categories: (1) unlikely behaviors in the total absence of basal violence; (2) symbolic significance, depending on idiosyncratic traits and perspectives; (3) exaggeration; (4) revenge scenes, where the perpetrator righteously inflicted gross and disproportionate harm onto the victim; and (5) other themes, such as misattribution of the cause of the violence and the totally virtuous and heroic nature of the faker. The value of this largely anecdotal study was information showing trends and patterns in deception associated with self-reported fictitious violence, and to have a notion of true basal violence in order to make sense out of the fabricated act.

Generations of Research

A first generation of dangerousness prediction methods involved the use of clinical judgment and interviewing without the use of base rates. Despite evidence that these methods of prediction are no more accurate than the flip of a coin, as reviewed in the previous editions of this book, unstructured clinical interviewing continues to be used presently by forensic professionals not familiar with or unwilling to engage in empirically derived, structured interviewing and/or actuarial testing.

Monahan (1984) described a second generation of risk assessment measures which primarily included structured interviewing and some testing for response set. Hall (1987) surveyed the available violence prediction literature to determine the core factors that must be considered in violence prediction. These core factors consisted of operations, such as: (a) obtaining a multi-sourced, interdisciplinary forensic database upon which to draw conclusions; (b) analysis of retrospective and current distortion; (c) determining the characteristics of basal violence (frequency, intensity, and severity of past dangerousness); (d) determining the presence of triggering stimuli (especially substance intoxication, breakup of a central love relationship, and work conflict); and (e) examination of opportunity factors. For individual assessments, it was recommended that the predictee's violence could and should be represented in a typical assault cycle. The violence assault cycle consists of a graphical representation of baseline (past or basal violence), a triggering phase, an escalation phase (where arousal mounts and the perpetrator becomes more threatening and readier to inflict violence), a crisis phase (where the actual violence occurs), and a recovery phase. An assault cycle is illustrated in [Figure 22.1](#).

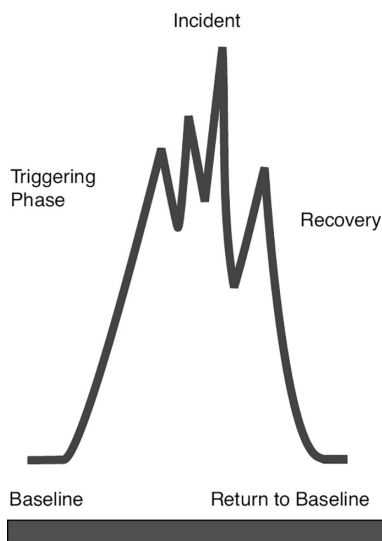


Figure 22.1 Standard assault cycle.

First and second generation violence prediction studies isolated common errors in the assessment of dangerousness to include: (a) the lack of an adequate forensic database; (b) the frequent failure to account for retrospective and current distortion, both unintentional and intentional; (c) the prediction of future dangerousness in the absence of previous dangerousness; (d) the reliance on illusory correlations of dangerousness; (e) the prediction of dangerousness solely from clinical diagnosis; (f) the failure to consider triggering stimuli; (g) the failure to take into account opportunity variables; (h) the failure to evaluate inhibitory factors; (i) ignoring relevant base rates; and (j) the failure to formulate circumscribed conclusions capable of replication by independent evaluators.

Borum (1996, 2000) suggested a third and latest generation of risk assessment measures including the MacArthur Risk Assessment Study series (Steadman et al., 1994, 1998, 2000). The MacArthur Study involved a relatively large sample (1000 Ss) of hospitalized patients and investigated a comprehensive array of risk factors. The risk factors were reviewed individually, and in small and large clusters, to determine any predictive patterns of violence-risk. This three-generational history of risk assessment studies and the implications for FDA in risk assessment are captured in [Table 22.1](#). These data illustrate some of the significant advances that have been achieved in risk assessment.

A distinct advancement in the MacArthur Risk Assessment Study (Steadman et al., 1994) has been to comprehensively identify risk factors on a multidimensional basis as opposed to the traditional identification and comparison of single-risk predictor variables. The traditional approach has been to utilize 2×2 contingency tables that incorporate dichotomous outcome measures (e.g., hit rates) and a dichotomous violence predictor (Mossman, 1994; Rice, 1997). Steadman et al. (1994) proposed further that the multidimensional analyses should be conducted at recurrent intervals. Menzies and Webster (1995) reported an effort to adhere to the MacArthur Study proscriptions, but the predictive accuracy of their findings did not produce encouraging results. These authors concluded, “For the time being, the debates continue, the dilemmas persist, and the problem of violence prediction remains one of the most persisting enigmas in the interrelated fields of psychology, medicine and law” (p. 776).

Table 22.1 Three Generations of Risk Assessment Research

Generation	Critical Issue	FDA
First generation (1960s to 1981)	Clinicians predict risk accurately no more than two out of three times (Monahan, 1981) Long-term violence predictions about outpatients usually incorrect (Faust & Ziskin 1988; Monahan 1978)	Not applicable
Second generation (1980s to 1995)	At least one in two short-term predictions are accurate (Otto 1992) “Best estimates” vs. “prediction” (Grisso & Tompkins 1996) Violence predictions substantially better than chance; second-generation studies more accurate; short-term predictions not better than long-term; past behavior is better long-term predictor than clinical judgment (Mossman 1994) Research methodology improvement contributed to better predictive accuracy (Borum 1996) Base of empirical knowledge about risk factors for violent behavior has widely expanded in the last 15 years (Monahan & Steadman 1996)	Violence history, triggers, and opportunity are three main factors associated with violence and are common targets of denial and minimization by perpetrators (Hall 1982, 1984, 1987)

As stated, the third generation of violence prediction instruments was illustrated by the proliferation of structured interviewing and actuarial measures, which appeared in the mid-1990s. As with most evolving research, risk assessment investigations demonstrate controversial and contradictory findings. In time, such differences are usually clarified with new research. The issue of whether or not mental illness is a risk factor in violence is a prime example of such research controversy. There have been a number of reviews of this issue (see Applebaum, 1994; Borum, 1996; Monahan & Steadman, 1996; Rice, 1997; Rice & Harris, 1997; Steadman et al., 1994; Teplin, Abram, & McClelland, 1994). Tengström, Grann, Långström, and Kullgreen (2000) found that the risk for committing violent crimes by individuals suffering from major mental disorders is four to six times higher than that of the general population. Given the fact that violent crimes in the general population are not very common, violence was viewed as a low-base-rate phenomenon carrying a much higher probability of violence for persons with major mental illness.

The prevailing view during the 1990s appeared to be that serious mental illness may be a significant contributing factor to violence, but recent studies have indicated that the basic interactive variables are intertwined. Teplin et al. (1994) conducted a six-year longitudinal study that did not support mental illness as a significantly contributing factor. Rice (1997) also reported a negative relationship between psychotic diagnosis and violent recidivism. One perplexing problem in the foregoing research has been controlling for other suspected high-risk factors. Teplin et al. (1994), for example, did not control for age or prior violence.

Other presumed high-risk factors for violence include gender, marital status, victimization-history, and especially comorbid personality and substance abuse disorders.

The important role of psychopathic dynamics with violent offenders has been well established in all three generations of research. Psychopathy was found to correlate with the early onset of violent offending and a progression of violent and non-violent acting out through adulthood (Hare, 1991, 1996, 1998a, 1998b; Hare et al., 1990). In studies of criminal offenders with schizophrenia, the Psychopathy Checklist-Revised (PCL-R) (Hare, 1991; Hare et al., 1990) was used to test the hypothesis that psychopathy predicted violent recidivism (Tengström et al., 2000). As measured by the PCL-R, psychopathy was found to be an important factor in predicting violent recidivism with this group. Other established recidivism risk factors (e.g., prior violent acts, downward social mobility, and substance abuse) did not explain as well, or better, the cohort of violence recidivism. As discussed below, the PCL-R does not help predict violence in non-psychopathic individuals with a history of violence, nor does it adequately explain the role of deception in clearly psychopathic assessees.

Steadman et al. (2000) demonstrated that the many tools developed for violent risk assessment remained primarily research instruments that were not routinely incorporated into daily clinical/forensic practice. The investigators proposed that this was because most existing actuarial instruments are based on a main-effects regression approach, and as such, do not adequately reflect the evolving and contingent nature of actual clinical assessment processes. To overcome this problem, the authors proposed an iterative classification tree model as opposed to main-effects regression procedures. The approach utilizes two decision thresholds to arrive at a dichotomous risk classification. One classification identifies high-risk cases and the other identifies low-risk cases, leaving a residual group of "unclassified." Classification decisions would be made utilizing current software technologies, which would lead the user through decision tree steps, while making and entering threshold decisions. This system, however evidence based, is not in wide use by forensic professionals who conduct violence risk assessments.

Hall and Ebert's (2002) second edition of *Violence Prediction* included many of the latest generation methods. It was found that the field of violence risk analysis has not, unfortunately, materially advanced since the breakthroughs in methodology and increase in accuracy in the mid-1990s. No fourth generation of violence prediction measures has emerged in the last 18 years.

Even in the most accurate and accepted violence risk measures, predictee deception may not have been taken fully into account. The modified Violence Risk Appraisal Guide (VRAG), as cited research below shows, enjoys a sterling reputation for predicting specific probabilities of violence for specific periods of time (e.g., 7 years), in order to assist clinical decision-making and manage risk (Quinsey et al., 2006; second edition). Average receiver operator characteristic (ROC) area scores from over a dozen studies are in the 0.70s and better than most violence risk scales. These scores leave undetermined variables and chance factors by the very nature of significance level (usual level of significance is set at 0.05, 1-tailed, meaning that significant differences may be inaccurate 5% for each test utilized). Deception emerges as a likely candidate for substantially less than perfect predictions. Moreover, several VRAG item scores are derived by open interview data, indicating that clinical judgment comes into play. These include interview-derived items scored from a determination as to whether the predictee meets the DSM criteria for schizophrenia, has a PCL-R equal to or greater than 25, and has certain background maladjustment problems in a variety of settings. The authors contend that no measure of violent risk is entirely free of clinical judgment.

Deception has been reported when investigators attempted to rule in or out a diagnosis of conduct disorder for transition-age youth (16–24 years) using the modified VRAG designed for this population group (Vincent, Drawbridge, & Davis, 2019). Although the VRAG was the only instrument with significant mean age-related differences in risk scores in the Vincent et al. study, the problem of possible deception comes in play because of the interviewing process. There is no evidence that members of this transition group are less adept at deception than older assesseees.

Studies suggest likely deception and distortion when predictees are interviewed. To avoid a finding of psychopathy on the PCL-R (scores from which are built into several of the most accurate violence prediction methods, including the VRAG, sex offender risk appraisal guide (SORAG), and Historical Clinical Risk Management-20 (HCR-20)), persons undergoing a risk analysis may be motivated to present a positive picture of themselves. Faking good, invalidation, or other response styles may be shown. As Baker, Porter, ten Brinke, & Udala (2015) stated:

In scoring items that consider “trait” deceptive behavior (Pathological Lying, Conning/Manipulative), assessors are instructed to consider discrepancies between information from the subject within the interview and in the collateral information. However, there is no guidance around how to assess credibility in the interview beyond looking for information discrepancies. And it is clear that the presence of psychopathy can be in the eye of the beholder. After accurately intuiting the presence of psychopathy in offenders based on viewing “thin slice” videos, observers’ initial perceptions are quickly charmed away with extended viewing (Fowler, Lilienfeld, & Patrick, 2009). Further, PCL-R scores and accordant risk assessment findings are strongly influenced by which side—the defense or prosecution—hired the expert evaluator (e.g., Blais, 2015; Murrie, Boccaccini, Guarnera, & Rufino, 2013), known as the adversarial allegiance effect (p. 58).

Baker et al. (2015) see as problematic the vague advice of the PCL-R developers, primarily, Hare and associates, that forensic professionals should assess multiple sources of information including collaterals, as well as to gauge the “sincerity” of the informant. They go on to state:

Particularly where there is little guidance on how to assess credibility, it may be that adversarial allegiance is fueled, at deception detection in risk assessment interviews at least in part, by unconsciously biased credibility assessments. This hypothesis is based on past research finding that unconscious biases can influence the interpretation of cues to deception (for example, an observer may be led to believe a target will be deceptive and then rely on stereotypical but false cues to deception such as averted eye gaze to support this preconception), and even lead to tunnel vision, in a credibility assessment context (see Porter, ten Brinke, & Wilson, 2009, for discussion); for example, Meissner and Kassin (2002) found support for the “investigator bias” such that those with more training and prior experience with criminals had a greater response bias for identifying the target as deceptive (versus truthful) (p. 59).

For the above reasons, the authors of this book recommend that test security be imposed on the Internet. We have a crisis. For example, the VRAG and SORAG test items, the weights given to these items, precise scoring criteria, and norms can be easily obtained from online sources. **The authors consider the posting of such potentially harmful and detailed information for public consumption and possible exploitation by individuals or organizations an ethical breach.** At the very least, forensic professionals should question

assesseees regarding their prior exposure to forensic materials and methods. As discussed in other chapters, some attorneys of criminal defendants have been implicated in coaching their clients on forensic measures of legal relevance to the case at hand.

Notwithstanding the ongoing concerns with predicting violent recidivism, in recent times, the topic of risk assessment has flourished in terms of studies and investigations reported in the literature (Borum & Otto, 2000; Chouldechova, 2017; Large & Nielsen, 2017; Quinsey et al., 2006). Large scale meta-analyses on violence risk assessment have yielded important findings over the last decade (Fazel, Singh, Doll, & Grann, 2012; Hanson & Morton-Bourgon, 2009; Ramesh, Igoumenou, Montes, & Fazel, 2018; Singh et al., 2011).

A meta-analysis of 118 distinct samples involving 45,398 people from 16 countries focused on the accuracy of recidivism risk assessments for sexual offenders worldwide (Hanson & Morton-Bourgon, 2009). The best of the sexual offender prediction measures consisted of Vermont's Sex Offender Treatment Needs and Progress Scale ($d = 0.82$, 1 study) and the Violence Risk Scale-Sex Offender Version ($d = 0.89$; 2 studies). Both of these measures had adequate construct validity and provide probability tables for linking base rates for recidivism to total scores reflecting idiosyncratic variables. Other adequately supported tests of sexual recidivism include the Static 99, Minnesota Sex Offender Screening Test-Revised (MnSOST-Revised), Risk Matrix-2000 Sex, and the Sexual Violence Risk-20. For the prediction of violent recidivism including sexual violence, their findings supported the VRAG, SORAG, the Risk Matrix-Combined, and the Level of Service Inventory-R. For the prediction of general recidivism, the best measures were the VRAG, the SORAG, the Statistical Information on Recidivism (SIR), and the Level of Service Inventory-R.

Consistent with violence measures which examined non-sexual offenses, Hanson and Morton-Bourgon (2009) found that actuarial measures were the most accurate with effect sizes moderate to large (d values of 0.67–0.97), followed by structured professional judgment, and lastly, unstructured professional judgment. The accuracy of actuarial measures varied depending on the referral questions and samples assessed. Evidence of ethnic differences arose in this Swedish study, such as the Static 99 predicting recidivism in Nordic and non-Nordic Europeans, but not for Africans/Asians. Hanson and Morton-Bourgon (2009) make the point that possible deception by offenders successfully hiding their sexual offenses may have suppressed "real" recidivism rates. These comparative base rates for recidivism may change across cohorts and jurisdictions due to various forms of deception and other factors by members of those groupings. They make the important point that when the base rate for recidivism is substantially different than the decision threshold for a predictee, it is quite possible for actual recidivists to score higher than non-recidivists, but lower than the decision threshold for moderate or high-risk offending. False negatives can then be expected.

Singh et al. (2011) reported on nine commonly used violence assessment tools utilizing 68 studies and 25,980 participants from 13 countries. Common to other studies, a central finding was the higher predictive validity in measures designed to assess risk in specific populations than tools designed for more general populations or general offending. This suggests the forensic professional should utilize base rates and measures geared toward the specific population/type of violence in which the predictee holds membership.

Singh et al. (2011) reported that the Structured Assessment of Violence in Youth produced the highest rates of predictive validity, while two measures of general offending—the Level of Service Inventory and the PCL-R produced the lowest. One implication is that using the PCL-R as a stand-alone measure of violence, despite the strong traditional endorsement by forensic practitioners and investigators, is **not** recommended. Besides the

Structured Assessment of Violence in Youth, three other measures with high predictive validity across four outcome statistics include the VRAG, Spousal Assault Risk Assessment (SARA) guide, and HCR-20, which can be classified as a structured clinical judgment. The relatively high predictive validity for the HCR-20 is in line with the finding that actuarial measures produced better predictive validity than structured clinical judgment measures. Further, the HCR-20 contains dynamic items which change over time and therefore may be useful for intervention planning. Instruments produced higher rates of predictive validity in older and predominately white samples. Singh et al. (2011) reported on previous empirical research in concert with their findings that showed no difference in predictive validity for men and women except for a higher predictive validity for juvenile males. As always, forensic practitioners were cautioned to not use any of these measures to predict violence in samples dissimilar to their validation samples.

Fazel et al. (2012) conducted a meta-analysis of risk assessment measures and anti-social behavior in 73 samples involving 24,827 people from 13 countries in a replication, re-analysis and partial extension of the Singh et al. (2011) study. In a more circumscribed view compared to the conclusions of the Singh et al. (2011) study, their primary finding was that these measures did identify low-risk individuals versus high-risk persons, but their use as sole determinants of detention, sentencing, and release was not supported by the evidence. The measures did moderately well when used to inform treatment. They were limited by their positive predictive values: 41% of people judged to be at moderate or high risk went on to violently offend; 23% of those judged to be moderate or high risk by assessment of risk of sexual violence went on to sexually re-offend; and 52% of those judged to be of moderate or high risk by generic assessment tools went on to commit any offense. Negative predictive values, consonant with high true negatives found for any violent category with a low base rate of occurrence, as determined by numerous studies over the last 40 years, were not surprisingly recommended to screen out persons at low risk of violent offending.

Despite these caveats, Fazel et al. (2012) showed that positive predictive values in their study were not dissimilar to those found in other studies correctly predicting cardiovascular accidents and other life-threatening, but non-threatening events (AUC, or area under the curve 0.66 to 0.74). The authors may have a systematic bias against using positive prediction values in applied situations due their repeated concerns of possible legal, economic, and civil adverse consequences of a false positive. Not utilizing scores which indicate high risk due to concern about false positives is tantamount to guaranteeing results in the direction of evaluator interests. Nevertheless, they conclude (p. 5):

One implication of these findings is that, even after 30 years of development, the view that violence, sexual or criminal risk can be predicted in most cases is not evidence based. This message is important for the general public, media and some administrations who may have unrealistic expectations of risk prediction for clinicians.

Some of the findings of this meta-analysis have been long established. No competent forensic professional should use a stand-alone violence prediction instrument to determine risk, as opposed to utilizing a wide forensic assessment process. And the finding that clinical judgment by itself is inferior to structured interviewing and actuarial testing was established decades ago.

In a meta-analysis involving 43 publications with information on 6840 patients in 12 different countries designed to assess the nine most commonly used violence risk assessment devices used in psychiatric hospitals, Ramesh Igoumenou, Vazquez Montes,

and Fazel. (2018) found variable accuracy for scales predicting imminent and longer-term violence. Inpatient violence was better predicted for imminent violence, achieving an overall accuracy level in terms of median AUC of 0.83, compared to a median AUC of 0.68 for longer-term measures. The authors note that AUC values of greater than 0.8 indicate a highly accurate test; those below 0.7 indicate poor to moderate accuracy. In studies of measures predicting imminent violence, sensitivity was 0.59 (95% confidence interval [CI]; 0.29–0.83), while longer-term measures predicting violence were better at 0.75 (95 CI; 0.65–0.83). Specificity for imminent scales was 0.99 (95% CI; 0.80–1.00) and for longer-term measures was 0.56 (95% CI; 0.46–0.66).

Ramesh et al. (2018) found that the HCR-20 had, at best, moderate accuracy across a range of performance measures in terms of short-term predictions. The PCL-R and VRAG performed poorly for inpatient violence, primarily because these measures lack dynamic indicators. This opinion is contrary to research finding that both static and dynamic indicators capture elements of the same underlying risk associated with violent behavior, at least for 212 offenders with intellectual disabilities (Lofthouse et al., 2012). In the Ramesh et al. (2018) study, the two measures designed for inpatient violence, one of which was the valid and reliable Dynamic Appraisal of Situational Aggression, performed with reasonable accuracy, although there were few studies to support this view. Ramesh et al. (2018), consistent with others, recommend research that focuses on development and validation of tools designed for specific populations. Clearly, we have more violence prediction measures to research. Large and Nielssen (2017) make the point in their *World Psychiatry* article that more than 200 actuarial violence risk instruments have been described. The vast majority of these instruments were developed by psychologists.

Ramesh et al. (2018) contend that most extant violence risk instruments have problems with the statistical separation of high-risk and lower-risk groups, and in addition, show an overreliance on measures of discrimination such as AUC or odds ratios as opposed to positive predictive values or other measures of prediction. The alleged “overreliance” on AUC or odds ratios is not warranted, as these newer statistical methods from signal detection theory to violent recidivism that have proven heightened discriminatory ability and are rightly considered major breakthroughs in violence prediction methodology. They conclude, because of these problems, that such actuarial devices are **not** clinically useful, and that relevant studies have not answered the basic question as to whether use of these methods in intervention with high-risk groups “actually reduces the overall rate of violence.” In essence, they are recommending that actuarial devices should not be used in our violence prediction efforts except to prove that low-risk persons with no history of violence are not high risk for recidivism. It is beyond the scope of this book to determine if commonly utilized violence prediction measures will reduce the overall rate of violence.

It is essential that forensic professionals recognize that some of the conclusions from the recent meta-analyses may be biased in the direction of a medical model. And there may be different definitions of key terms. Fazel et al. (2012) erroneously use the term “evidence based,” for example, when referring to negative findings from the empirical literature. Many of the violence prediction studies over the last 40 years meet the American Psychological Association evidence based practice (EBP) criteria for “efficacious and specific” in that there is evidence from at least two settings or methods that several of these measures are clearly superior to simply using base rate statistics, or comparison groups, for various violent behaviors and offenses. As we have seen, some evidence-based violence prediction measures have been found to have acceptable degrees of reliability and validity.

Fazel et al. (2012) recommend that forensic professionals not use empirically derived, reliable, and valid measures of violence risk except to identify, quite paradoxically, persons at low risk of violence to others. These authors then offer the unsubstantiated opinion, contrary to empirical studies they themselves cite, that “actuarial instruments focusing on historical risk factors perform no better than tools based on clinical judgement” (p. 5). No evidence is offered for this assertion. Finally, they opine that it is professionally acceptable to “roughly classify individuals at the group level, and not to safely determine prognosis in an individual case” (p. 5). The basis for this recommendation is that this practice is common practice in forensic psychiatry in the United Kingdom and Wales. They recommend that forensic professionals be limited in their use of violence risk tools depending on the possible consequences of false positives. Nowhere in their recommendations for forensic or clinical work, or the studies they cite in their meta-analysis, is the notion that possible deception by the assessee must systematically be considered to determine true prediction values. Nor do they acknowledge the several types of bias their assumptions and methodology represent.

Large and Nielssen (2018) recommend and imply that future risk assessment will shift to medically supervised clinical monitoring methods including “using technology such as the analysis of social media and even telemetry reporting physiological markers of intoxication and abnormal mood states.” And, in judging the potential loss of confidentiality and other ethical violations in their treatment efforts, they state: “We might tolerate some increased intrusion into the lives of our patients if new methods are shown to be effective in reducing violence” (p. 26). They conclude with: “However, any new methods should not only be assessed by their predictive ability, but also by reliable evidence that they can actually reduce violence and that any reduction is not at an unacceptable cost to an already [unspecified] disadvantaged section of society” (p. 26).

U.S. Supreme Court Cases and the Big Split

Dangerousness may be defined as the likelihood of threatened, attempted, or consummated physical harm to others, self, or property within a certain period of time. In forensic contexts, when assessed, a person with a history of violence, the best predictor of future violence, may downplay previous aggression and project blame for acknowledged violence onto victims and contexts. The first and second editions of this book discussed an early split over methodology and what constitutes adequate qualifications to even predict violence. Nevertheless, knowledge concerning the prediction of human violence continues to accumulate and has implications for legal settings and situations (Borum, 1996; Grisso & Appelbaum, 1992; Grisso & Tomkins, 1996; Lidz, Mulvey, & Gardner, 1993; Hall, 2008; Link & Steuve, 1995; Monahan, 1992, 1993; Otto, 1992; Singh et al., 2011; Steadman et al., 1994).

In general, the split represented by interpretations of data and conclusions discussed above appears to be along professional lines and training. This split impacts decisions by the trier of fact, as discussed below. Forensic psychologists should understand that psychiatrists and other medical personnel, as well as some non-psychologist forensic professionals, may not be trained or competent in test development, scaling, or the exacting standards for the administration of norm-based testing.

In legal venues, time and again, the authors have provided forensic consultation and expert testimony where psychiatrists and other physician-experts have used clinical judgment in forensic cases in an attempt to counter the norm-based arguments of opposing

psychologist-experts. The psychological methodologies provide a distinct advantage, in our opinion, and as the empirical literature suggests, to the clinical judgment of the psychiatrist. Such is not surprising, given research findings over the last several decades showing the superiority of actuarial methods and structured interviewing over clinical judgment.

The reason for this continued controversy in dangerousness prediction of the type of methodology employed is the difference between the psychological and medical models of understanding behavior in addition to licensure issues, such as who should be allowed to render predictions of violence risk. The controversy continues with the persistent use of unstructured clinical assessment and judgment by medical professionals versus the structured, empirically based testing by forensic psychologists and some other forensic professionals. This unfortunate split, continuing to this day, has been commented on in legal cases.

The Supreme Court in *Coble v. Texas*, No. 10-1271 (2010, 2011), on petition for a writ of certiorari to the Texas Court of Criminal Appeals and commenting on assessments of future dangerousness, received a brief for Amici Curiae submitted conjointly by the APA and Texas Psychological Association. The APA/Texas Psychological Association maintained that expert testimony on defendant's dangerousness on behalf of the government was essentially biased and unstructured clinical testimony not based on science. Worse, such testimony was determined to be unduly persuasive to juries, and that structured risk-assessment and actuarial testing, not provided in the instant case, can and should reliably inform assessments of future dangerousness.

Although the Supreme Court denied the writ of certiorari, the chief justices noted that the information in the brief on empirically derived, reliable, and valid violence prediction measures would be helpful in future litigation. The Court also stated that future expert testimony on dangerousness should be consistent with the standards set forth in *Daubert v. Merrill Dow Pharmaceuticals, Inc* (1993). The writ was denied because of contradictory, but established case law, not because of the scientific merits of the brief.

The Supreme Court in this case cited *Barefoot v. Estelle*, 463 U.S. 880 (1983), an earlier landmark case on dangerousness prediction, to the effect that admitting purported expert testimony that is "patently unscientific, not expert, and not reliable," is **not** a constitutional error. It is within the province of the trier of fact, the jury, or the judge in jury-waived hearings, as to what constitutes distortion or deception. The brief included research that showed that unreliable, unstructured clinical opinion "influences jurors more than opinions based on structured risk-assessment methods." And: **"Moreover, jurors' reliance on clinical expert testimony persists even after exposure to adversary procedures like cross-examination and the presentation of competing experts, and even after deliberations"** (emphasis added). A real risk of prejudice and bias may occur that cannot be nullified by traditional adversarial measures. The APA/Texas Psychological Association brief set the stage for the conduct of violence risk assessments in the future with the following key points offered by the Supreme Court:

1. Sufficient empirical evidence exists regarding mental-health professionals' ability to assess whether or not an individual will commit future dangerous behavior.
2. Admitting unreliable, unstructured clinical expert testimony on future dangerousness may adversely affect a variety of legal situations such as capital-sentencing, civil commitments and parole determinations. Possible distortion on the part of the expert may be unintentional and exemplified by (a)

ignoring the base rate at which the predicted event occurs in the population of interest, (b) assigning nonoptimal weights to factors based on intuitive judgment, and (c) employing the representativeness heuristic, or tendency to make judgments in a manner that fits the stereotypes of a situation (e.g., that violence always reflects psychiatric problems that call for medical intervention). The brief noted that over 40 years of reports on predicting violence by use of clinical judgment alone did not increase accuracy of prediction.

3. Overall, the brief maintained that “structured risk-assessment methods are grounded in scientific methods and are reliably used to assess future dangerousness in many contexts.” For example, the brief noted that VRAG research showed that “11% of patients who scored in the lowest category of violence risk on the VRAG were found to have committed a new violent act, compared with 42% of patients in the middle category and 100% of patients in the highest category.” A second approach has been successfully used, exemplified by the HCR-20, involving structured professional judgments when combined with flexibility of clinical judgments on predetermined risk factors. One study showed that 11% of the patients scoring in the lowest category on the HCR-20 went on to commit or threaten a violent act, compared to 40% in the middle category and 75% in the highest category of risk. Other acceptable measures were discussed.

Duty to Warn

Tarasoff v. Board of Regents (1976) has been widely viewed as having been a turning point for violence-potential assessment. Grisso and Tomkins (1996) observed, however, that Tarasoff was preceded by 30 years of judicial developments regarding criteria for involuntary civil commitment and also mandatory abuse reporting requirements on behalf of children and the elderly. In the 40 plus years since the ruling, the court’s decision for mental health professionals to use “reasonable care” in informing authorities and/or potential victims remains subjective (Adi & Mathbout, 2018). Despite proliferating widely, no clear set of clinical guidelines for determining when to break confidentiality exist. This uncertainty places mental health professionals in a vulnerable position given the different Tarasoff-type legal statutes and relevant case law.

A New York law enacted in 2013, for example, requires mental health professionals to report patients who may pose a danger to self or others, but protects them of both civil and criminal penalties if acting in “good faith” (N.Y. Mental Hygiene Law, section 9.46). California, in 2012, retained the permissive approach to reporting dangerousness, but case law has interpreted disclosures as mandatory (Cal.[Evid]Code, section 1010). Oregon, like many other states in 2011, holds that information is confidential during assessment or treatment unless the mental health professional finds a clear and immediate danger to others or to society (Oregon Rev. Statutes, section 179.505). The mental health professional in Oregon may report the dangerousness to the “appropriate authority,” but the law does not explain what constitutes clear and immediate. Virginia, in 2010, has a mandatory reporting law where the duty is considered discharged by involuntary commitment, the mental health professional warns the victim or their parents, notifies law enforcement, **“or counsels the client until it is no longer necessary,”** a vague criterion by any standard (emphasis added; VA. Code section 54.1-2400.1).

HIPAA supposedly insures confidentiality, backed up by a privilege which exists in most states. But the prevailing opinion is that privilege in Health Insurance Portability and Accountability Act (HIPAA) Tarasoff-like cases is not absolute, especially when a patient communicates a credible threat that clearly jeopardizes the safety of a targeted victim. Adi and Mathbout (2018) highlight that the immediate dilemma is identifying the juncture when dangerousness outweighs protective privilege. This juncture may vary according to the training of the forensic professional in violence risk analysis, bias, theoretical orientation, professional concern about consequences of a finding, the meaning of the statutes in the different state jurisdictions or within the Federal Rules of Evidence, and other factors. Thus, this basic dilemma may never be decided by legal cases. Further, the authors state that “clinical judgement remains an invaluable addition to instruments for determining whether the duty to protect is warranted.” They recommend a clinical-point system capable of providing the probability of a patient carrying out a threat. No recommendation was made regarding basal violence for an individual, which, alone or together with opportunity factors and triggers, provide the foundational base for a prediction of violence. Nor was any sort of a deception analysis built into their perspective.

It should be understood by the forensic professional that supposedly confidential information under HIPAA, including data relevant to violence risk to self and others, is more theory than fact. HIPAA has 12 permitted uses and disclosures of protected health information that don’t require the patient’s authorization. Under some circumstances, failure to warn a defendant that information regarding dangerousness may be presented to the court for purposes of sentencing may constitute a violation of the defendant’s constitutional rights (see “classic” cases: *Barefoot v. Estelle*, 1983; *Estelle v. Smith*, 1981; *Powell v. Texas*, 1989). *U.S. v. Byers* (1984) followed suit by stating: “A criminal defendant, who neither initiates a psychiatric examination nor attempts to introduce any psychiatric evidence, may not be compelled to respond to a psychiatrist if his statements can be used against him at a capital sentencing proceeding.”

It is ethically and sometimes legally incumbent on examiners to inform defendants how the information obtained during an evaluation or interrogation will be used. Nevertheless, the courts have relaxed the standards in recent years. *The Supreme Court in Florida v. Powell* (2010) involved a case where the defendant was at trial for illegal possession of a firearm. The defendant asserted that he had not been adequately warned that he could have an attorney present during his questioning. But Defendant Powell had already established his past dangerousness by admitting that he was barred from possessing a firearm because of a prior felony conviction. Even though Powell was administered only a partial Miranda warning, the court held it to be sufficient “when given a commonsense reading.” Forensic professionals should always provide the defendant an orientation with a built-in full Miranda warning regardless of legal issue. If the defendant refuses to be examined, that fact is reported to the court or referring party.

Targets of Deception

The above-cited literature in its entirety revealed that a history of violence, opportunities for violence and victim availability, and situational and dispositional triggers to violence, are the three main (HOT) violence-related factors and are commonly the targets of denial and minimization. Any of the variables associated with violence may be targeted for denial or minimization. These include features of historical violence (frequency of past

violence, arrests, and convictions for violence; recency of violence; severity of violence; targets of violence; and frequency of institutional misconduct) and developmental events (felony arrest before age 15; relevant school problems such as truancy; and evidence of self-reinforcement for violence).

Dispositional and situational influences on violence may act as triggers in individual cases. The significance of these influences is often denied by the faker in an attempt to avoid responsibility for making the choice to aggress. These include the subcultural acceptance of violence as a solution to interpersonal problems including “scripts” to follow when one is challenged or threatened, perceiving oneself as dangerous, believing that certain types of violence will go undetected or unpunished, violent fantasies, violent friends, substance abuse or dependence, psychiatric conditions, and heightened hostility.

Triggering stimuli, short-term in duration and intense in impact, which set the violence into motion, are often distorted or denied by predictees. Or, alternatively, blame may be attributed to the victim by the perpetrator of violence. Short-term events include, as the two most frequently mentioned triggering events, substance abuse and the breakup of a central love relationship. Other examples are insults to self-esteem and invasion of body space.

The presence of opportunity factors, which allow the occurrence of violence or expand the various ways it can be expressed, may also be minimized or denied. Opportunity factors expand the possible severity of exhibited violence or allow its expression. Examples in the former category include availability of a firearm, presence of a physically weaker potential victim, and elevation to positions of authority where violence toward others is institutionally sanctioned. The presence or ownership of weapons is almost always distorted by the perpetrator as knowledge of their inculpatory consequences is widespread. Variables which allow the expression of violence include release from incarceration into the community and cessation of taking prescribed tranquilizers.

Table 22.2 presents features of violence that are commonly minimized or denied by clients.

Table 22.2 Targets of Violence-Related Features Frequently Denied or Minimized

Past multiple violence
Previous “big four” crimes (rape, robbery, aggravated assault, and homicide)
Recency within last several years
History of reinforcing results from aggression
Pain cues from victim maintained/intensified perpetrator aggression
Institutional conduct involving threats or violence
Assaults or threats to authority figures
Arrests and hospitalizations for violence
Felony arrest before 15th birthday
Dangerous weapon used in offenses
Possession or recent purchase of firearm
Paraphernalia of weapons or substances
Cessation of stabilizing medication
Substance possession, intoxication, abuse, dependence, withdrawal, organic symptoms, or treatment
Violent or substance-abusing peers
Self-reinforcement for aggression

(Continued)

Table 22.2 (Continued) Targets of Violence-Related Features Frequently Denied or Minimized

Insults to the self-esteem leading to violence
Job loss or problems due to aggression
High hostility, low frustration tolerance
Chronic anger toward targeted others
Self-perception as dangerous
Belief that certain types of violence will go unpunished
Violent fantasies and dreams
Reported and unreported spousal abuse
Reported and unreported child abuse
Childhood/adolescent history of animal abuse
Childhood/adolescent history of fire setting

Some associated features of violence are typically affirmed by clients. These include *easily verifiable* violent acts resulting in arrests, convictions, and prison incarcerations. Other associations that are usually affirmed include a preference for violent films (TV and movies), books, etc., release from incarceration, and physical prowess in relationship to the (potential) victim. Misattribution of blame for violence may divert the responsibility in the violent offender's mind to other parties, and hence may be affirmed. These include physical abuse as a child, praise or reward by parents for aggression, a violent model in the home, substance abuse by the same-sex parent, and a history of reinforcing outcomes for violence.

Perpetrators will typically affirm or even exaggerate inhibitory variables that lower the chances that violence will occur. These variables fall into the lower range of frequency, intensity, severity, or duration of any quantifiable factor that is positively associated with violence. A minimal history of violence may be regarded by a client as a sign of dispositional non-violence, for example, and many subjects will therefore claim a non-violent basal history. Stabilizing psychotropic medication generally acts as an inhibitor to violence, and most patients will assert compliance with medication.

Dispositional factors associated with a lower propensity to aggress include high socioeconomic status and high educational level. Predictors may amplify or fabricate their occupational and educational achievement. The opportunity for violence may eliminate or reduce the probability of aggression and subjects may claim, for example, a lack of transportation or a physical disability.

Contextual stimuli include such variables as location of the crime scene and the presence of third parties, architectural features, availability of a weapon at the scene, and noxious environmental stimuli. Some subjects may therefore emphasize the improbability of violence given the presence of eyewitnesses, visibility, or physical "barriers" to violence.

Response Styles

Most perpetrators have an interest in a desired legal outcome and, therefore, often distort forensic information. If predictors are thought by evaluators as only hiding or minimizing violence (i.e., faking good) in order to escape conviction or punishment, this can and does lead to serious data misinterpretation. Honest responding, invalidation, faking bad,

and fluctuating styles are also possibilities (see Hall, 1982, 1985, 1986; Hall & Poirier, 2001; Hall, Poirier, & Thompson, 2007; Hall, 2008; Rogers, 1984, 1997; Rogers & Bender, 2018). The person may employ these strategies differentially for questions relevant to past violence and present circumstances. There are at least 12 distinct distortion strategies possible, corresponding to six response strategies (faking good, faking bad, honesty, invalidation, mixed styles, and fluctuating styles) for two-time intervals (past and present). The point is that distortion by an assessee does not always have to conform to the strategy suspected by the evaluator.

A defendant may attempt to portray past, but no current, dangerousness. The defendant may be saying that he or she was a dangerous person in the past, but is not a risk now. The message communicated may be that it is appropriate to trust this individual or at least to perceive change has been made in a positive direction. The implication for a lesser sentence, release from a state hospital, placement in a witness protection program, etc., may represent the desired outcome. Faking good for both the past and present may occur when the crime was minor and the defendant does not desire to have psychological intervention. If it serves the interests of the defendant, honest responding may be shown, as evidenced by verification from independent facts and sources, and other factors. Faking bad for the present with faking good for the past may be associated with a plea for help, as when the individual wants to be perceived as dangerous and mentally ill due to unusual and highly stressful events beyond his or control.

Response style analysis is in a rudimentary stage of development. Different response styles, conceptualized separately for past and for present violence, appear to represent a fruitful area of study. Knowing how people distort their past violence and their present potential for violence will likely increase the accuracy of predictions of dangerousness.

Reformulation of Violence Risk Analysis

The reformulated view entails: (1) from an outside perspective as an anchoring strategy for the first estimate of dangerousness, using available base rates for offenses and population groups similar to the predictee. This is an actuarial approach that does not require meeting or familiarity with the predictee; (2) an inside perspective by considering individual characteristics and events. In a sense, this part of the prediction process is a clinical approach based on “hypotheses about the structure and dynamics of the particular individual,” as formulated by Meehl (1954). A deception analysis of individual faking and distortion to make sense of a diverse and interdisciplinary database, missing from most measures of risk, is an integral part of the analysis of the individual; and (3) offering circumscribed conclusions and probability-based statements as a synthesis of 1 and 2.

Dynamic predictors and events that change over time and likely affect recidivism should be included in order to recommend intervention. For best accuracy, much like the reformulated criminal profiling presented in [Chapter 16](#), the court should be informed that on-going adjustments in the proffered prediction be made based on new information.

Re-evaluations of violence risk should be performed as often as new evidence emerges on recidivism factors. The courts should accommodate the emergence of new information. For example, as stated, a violence risk assessment is required if an exculpatory disorder is found in a criminal responsibility evaluation. This is typically followed by another evaluation after a statutorily defined period of time, one year, for example, in the state hospital or

structured psychiatric program in order to assess readiness for conditional release. Another prediction evaluation should be conducted after release into the community. It should be noted that deceptive styles may change at any one of these temporal or legal points by the defendant and should be considered by rigorous testing by empirically derived measures.

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Trends and Future Directions 23

Introduction

Historically, most investigation in deception analysis was in detection methodology—observational schemes, interviews, talking to significant/knowledgeable others, psychological and neuropsychological tests, polygraphy and other arousal methods, and so forth. The justification for the detection efforts ranged from the cost of dishonest employees to the need of governments to conceal information for security reasons. In mental health, the justification was to provide better treatment, but the revenue-driven goals of managed care has provided additional justification to identifying both the providers and consumers who attempted to deceive the carrier.

In forensic contexts, as we have covered, the evaluation of defendants and litigants has been justified by the need to provide the referral source or the trier of fact with accurate information. In more recent years, this forensic justification has been expanded by public demand to protect the community from offenders, both adult and juveniles, who have histories of violent and/or predatory behavior.

The assertion by some that the accuracy of deception detecting does not meet the Daubert standards is challenged by both extant methodologies and ongoing technological developments. Saxe (1991) in this regard wrongly predicted that accurate detection of deception is simply a fantasy because honesty is situational and because “[i]ndividuals have too many options available to encode their thoughts for us to be able to probe what they choose to hide.” As of 2020, a great many of the tools utilized in the forensic detection of deception have met both the Frye and Daubert standards and have yielded positive outcomes in both the criminal and civil arenas.

A few examples of emerging technologies and methodologies that may have forensic implications are explored in this chapter. Some of these methods and measures are already in existence including police and security-related advances, police screening methods for officer applicants, and group psychometric evaluation of psychological and behavioral characteristics. All of these methods lend their results toward such purposes as identity, deception-related behaviors, work behaviors, trait and state functioning, and various physical and mental characteristics.

Fingerprinting

Concealment of identity and criminal acts has long been addressed by fingerprinting. More recently, it has also been extensively used for vetting job applicants. As of 2015, the FBI combined civil and criminal fingerprints into one retrievable database. History is important to consider to understand the magnitude of this change. The FBI, in 1999, inaugurated a computerized fingerprint analysis system called the Integrated Automated Fingerprint

Identification System (Walsh, 1999). This system greatly accelerated the tedious process of matching fingerprints with the 34 million (i.e., of the total 226 million person database) fingerprint cards that have been submitted over the years by law enforcement agencies. A few years ago, the FBI added 73 million sets of fingerprints into the civil master file of the criminal fingerprint files (Lynch, 2015).

Critics have charged that this practice is consistent with the ever-growing movement toward cataloguing information on everyone in America. In essence, it is held by some that the government is now collecting information on Americans for non-criminal purposes, but then can use that same information for criminal prosecution. In many states, a person who applies for certain professional or non-professional jobs must give the government their prints. Once in the system, the information cannot be removed except by a court order or if the agency that requires prints also requests for them to be removed. The Integrated Automated Fingerprint Identification System data search can be implemented with other databases, such as Combined DNA Index System (CODIS) for DNA analysis and facial recognition, discussed below.

DNA Analysis

The accuracy of DNA analysis in matching samples is almost certain. DNA sampling of bodily fluids and tissues became vogue with the circumstances of the O.J. Simpson trial. A national impetus to make DNA analysis the premier forensic tool of the twenty-first century has long borne fruit. As of 2 decades ago, all states required DNA samples from sex offenders, 40 states required samples from those who committed offenses against children, and 35 states from murderers (Gugliotta, 1999). The DNA sampling requirements for other offenses varied widely from state to state. The argument by some defense attorneys that DNA analysis infringes on Fourth Amendment rights to privacy was routinely presented, but failed in early (and current) court cases. In October 1998, the FBI opened a national DNA database, the CODIS, containing at that time approximately 184,000 samples. As of 2000, there were few laws or guidelines regulating DNA sampling.

The database rapidly expanded over the next 2 decades. The number of profiles in the CODIS as of 2018 was over 13,400,000, proving the prediction of exponential growth by various investigators and the public itself. DNA collection is now mandatory in all 50 states for certain felony crimes, mostly sexual assaults and homicides. At least 47 states require DNA samples to be taken from all convicted felons (FBI, 2015). Some states have mandatory DNA testing for juvenile offenders. The clear trend is mandatory testing for all suspects who have been arrested, even for some types of misdemeanor crimes; and some states already have implemented relevant legislation.

Despite variation in state law, the United States (U.S.) Supreme Court ruled that police can routinely take DNA samples from arrestees not yet convicted of a crime and compare results with the national database to see if there are any matches in the unsolved crime pool (*Maryland v. King*, 569 U.S. 133 S. Ct. 1958 2013). Writing for the majority, Justice Kennedy offered that taking a DNA sample is indeed a search, but that the Fourth Amendment bars only “unreasonable” searches.

This line of reasoning evoked outrage from the late Justice Scalia who, in a fiery dissent, warned “Make no mistake about it. Because of today’s decision, your DNA can be taken and entered into a national database if you are ever arrested, rightly or wrongly, and

for whatever reason.” In essence, he was maintaining that the Fourth Amendment guarantees privacy, and that the right of concealing information within one’s own body, the equivalent of home, for whatever reason, is a constitutional right. Thus, he was arguing that the Fourth Amendment like the constitution as a whole is sacrosanct, and that invading one’s body or home in the name of a fishing expedition, or because of an overcontrolling policy, was unjustified.

Courts have nevertheless accepted the overall accuracy of DNA testing and have allowed prosecutors to search for suspects by interviewing people in the DNA database (2019 www.legalmatch.com). Exact probabilities of a match are still in dispute, ranging from 1 in 8192 to 1 in 108 trillion, depending on the number of loci or genes used in the analysis, and if the DNA actually being analyzed is an accurate chemical replication of the original. Results can be used to place a person at the scene of a crime or prove he or she was not there. Moreover, and also controversial, results can implicate family relatives in criminal activities who may not even be in the CODIS system, as we have seen by police searches for family linkages from companies that gather information on family histories by conducting DNA analysis on a saliva swab from a relative. A vexing problem for the forensic professional is the almost universal use of such technologies that may be ethically compromised.

Facial and Person Recognition

Facial and person recognition programs, often a companion method to DNA and fingerprinting analysis in police investigations, are now in wide use. As a person submits a photograph with an online application for a job, for example, the face can be searched within the various registries, including CODIS and the fingerprint registry. At the same time, the person can be vetted for past criminal or civilly disobedient behavior, key events in their life, or being the subject of ongoing actions by authorities, such as having an outstanding warrant.

Reported by asmag.com (2018), over 3800 weather- and vandal-resistant security cameras, using the Bosch Security and Safety Systems design, placed round-the-clock in two high crime urban areas in Honduras resulted in a greater sense of public safety and lower crime rates. No quantitative results were reported, however, similar to most urban areas in the United States, the installation was integrated into police, fire, ambulance, the Red Cross, and a new 911 national emergency system, which alone or especially in combination have documented positive effects on public safety.

Facial recognition cameras have improved amid hardware advances. Conventionally, facial recognition analytics are processed by the server. The main benefit is that the recognition process can be done at the front end and is of particular benefit to police and security personnel in the identification of persons. The developers, [asmag](http://asmag.com)—Global Security Web, state there are other applications for this besides helping create safe cities (Pao, 2018): “In addition to monitoring in cities, face recognition cameras can also be widely used in airport, station, building, finance, retail and other solutions. For example, in airport and station solutions, face recognition cameras can be used to distribute and control key black list personnel, arrest criminals in a timely manner and identify personnel with criminal records to make pre-judgment on malignant events.” Pao (2018) states that current

minor issues with the cameras will be worked out with continuing research, but that now “a camera with Intel processor and GPU with at least 8GB RAM can run face recognition smoothly.” He cites other companies that have worked out 3D face recognition systems.

From the perspective of the forensic professional, it is essential to firmly establish the identity of the person being evaluated. All gathered data are based on the belief of the forensic professional that the identity of the suspect or litigant has been confirmed. The authors have had numerous experiences with assessees who attempt to hide or distort who they are or change identifying information, such as a social security number, military service number, family members, or residence. Thus, the forensic professional cannot avoid using data from the above platforms, and that information is usually provided in the forensic file, which forensic professionals must read in order to maintain any credibility in a forensic exam.

Neuroimaging and fMRI Lie Detection in Particular

Widespread excitement in the sphere of neuroimaging occurred as two companies—Cephos in Pepperell, MA and No Lie MRI in Tarzana, CA—claimed to predict with 90% or better accuracy whether a person was telling the truth (Stix 2008; see “Can fMRI really tell if you’re lying?”). The blood flow that was activated by a contrast medium vividly illuminated areas of the brain. The most changes were in the executive system in the anterior regions. One of the companies with the catchy name of No Lie MRI even suggested that the method could be used for “risk reduction in dating.” Unfortunately, their claims were based on limited research, case studies, and a few reports of limited validity.

Stix (2008) noted that reviews on the topic (less than 20 up to that year) failed to prove the fMRI was “effective as a lie detector in the real world at any accuracy level.” Nevertheless, the Cephos CEO asserted that the technology had achieved 97% accuracy in a pilot study involving more than 100 people. The two companies stated that they were not waiting for more data before marketing the technology. One reason for their hurry may have been the announcement that the MacArthur Foundation had offered a \$10 million grant in 2007 for some established organization to develop an accurate and reliable lie detection using the functional Magnetic Resonance Imagery (fMRI) or other brain imaging technology.

Eventually, questions shifted to the legal arena as convictions were challenged. The key case in fMRI lie detection is *United States v. Semrau*, U.S. Court of Appeals, Sixth Circuit (2012). This case upheld a district court’s exclusion of an expert witness in part on the basis that “no formal research” was presented at the Daubert hearing. Dr. Semrau, a clinical psychologist who appealed his conviction of three counts of healthcare fraud, argued that the “district court erred in excluding opinion testimony from Dr. Steven Laken, who would have testified that fMRI testing indicated that Dr. Semrau was generally truthful when he said he attempted to follow proper billing practices in good faith.”

The Semrau court responded:

The admissibility of fMRI lie detection testing in a criminal case is an issue of first impression for any jurisdiction in the country, state and federal. After carefully reviewing the scientific and factual evidence, we conclude that the district court did not abuse its discretion in excluding the fMRI evidence under Federal Rule of Evidence 702 because the technology had not been fully examined in “real world” settings and the testing administered to Dr. Semrau

was not consistent with tests done in research studies. We also hold that the testimony was independently inadmissible under Rule 403 because the prosecution did not know about the test before it was conducted. Constitutional concerns caution against admitting lie detection tests to bolster witness credibility, and the test results do not purport to indicate whether Dr. Semrau was truthful about any single statement.

The court also noted: “Dr. Laken testified that fMRI lie detection has a huge false positive problem,” in which people, about 60%–70%, who are probably telling the truth are deemed to be lying. One 2009 study was able to identify a “truth teller as a truth teller” just six percent of the time, meaning that about “nineteen out of twenty people that were telling the truth we would call liars.” Another study expressed concern that “accuracy rates drop by almost twenty-five percentage points when a person starts becoming fatigued.” Dr. Laken also explained that a person can become sufficiently fatigued during testing, such that results are impacted after about two “scans” because “[t]heir brain starts kind of going to sleep.” Similarly, inadequate sleep the night before a test could cause such fatigue.

The Semrau court continued: “More significantly, there are concerns with not only whether fMRI lie detection of “real lies” has been tested but whether it can be tested. See *Daubert*, 509 U.S. at 593, 113 S.Ct. 2786; *Bonds*, 12 F.3d at 558–59. Dr. Laken testified that “the issue that one faces with lie detection, is what is the real world baseline truth[?]” See *Cordoba*, 194 F.3d at 1059 (“[T]he error rate of real-life polygraph tests is not known and is not particularly capable of analyzing.”). In this case, for example, only Dr. Semrau knows whether he was lying when he denied intentional wrongdoing, so there is no way to assess with complete certainty the accuracy of the two results finding he was “not deceptive” (not to mention the one finding that he was deceptive). The same is presumably true for many other “real world” scenarios in which a person may be trying to conceal something which is not already known or easily verifiable.” The Semrau court, however, left open the possibility, even likelihood, that findings from fMRI lie detection and other technologies may in the future be admitted as evidence. They stated:

The prospect of introducing fMRI lie detection results into criminal trials is undoubtedly intriguing and, perhaps, a little scary. See Daniel S. Goldberg, *Against Reductionism in Law & Neuroscience*, 11 *Hous. J. Health L. & Pol’y* 321, 324 n.6 (2012) (reviewing literature that “challenges the very idea that fMRI or other novel neuroimaging techniques either can or should be used as evidence in criminal proceedings.”). There may well come a time when the capabilities, reliability, and acceptance of fMRI lie detection—or even a technology not yet envisioned—advances to the point that a trial judge will conclude, as did Dr. Laken in this case: “I would subject myself to this over a jury any day.” Though we are not at that point today, we recognize that as science moves forward the balancing of Rule 403 may well lean toward finding that the probative value for some advancing technology is sufficient.

The MacArthur Foundation (2016) following suit, issued a white paper stating that research on fMRI-based lie detection will continue, but that the general consensus in the scientific community regarding the probative value after a decade of research remains guarded. Politely, they were dubious and were not willing to further fund such a program. Presumably, this meant their planned large financial investment in this technology would be shelved. In their statement, the many issues raised in other studies and in court decisions were examined. Other critical issues included the now established finding in neuroscience that: “It is impossible to infer a specific mental process solely on the basis of brain

activity in a particular region.” And: “The regions that consistently showed deception-related activity were the ventrolateral and dorsolateral prefrontal cortex, inferior parietal lobe, anterior insula, and medial superior frontal cortex.”

Keep in mind that those brain regions are activated during other cognitive events as well, most particularly, in the executive system. Confounds and faulty predictions based on this technology therefore abound. In general, after reviewing empirical studies, it is clear that the sensitivity and specificity of fMRI lie detection have not been established.

In a legal analysis, Young (2018) noted that the accuracy of the fMRI has improved over the years, and that it is certainly more accurate than the 70% reported for the polygraph. Yet studies suggest that the inconsistency of the method at this time does not meet the threshold for admission in the courtroom. She did opine that future use may be in the sentencing phase rather than the guilt phase of a trial.

Lipreading AI

A newer technology that may rapidly improve is artificial intelligence (AI)-enhanced lip-reading (University of Oxford, 2017). *Attend and Spell* is a new AI software system that has been developed by Oxford researchers in collaboration with a company which publishes under the name “DeepMind” (Hutson, 2018). The researchers stated:

This AI system uses computer vision and machine learning methods to learn how to lip-read from a dataset made up of more than 5,000 hours of TV footage, gathered from six different programmes including Newsnight, BBC Breakfast and Question Time. The videos contained more than 118,000 sentences in total, and a vocabulary of 17,500 words.

The program was compared to a human expert viewing a silent video and focusing solely on the speaker’s lip movements. The software system was more accurate than the professional. The human lipreader correctly read 12% of words, while the utilized program recognized 50% of the words without error. Moreover, the software program’s mistakes were small, including things like missing an “s” at the end of a word, or single letter misspellings.

It is important to note that the the program was improved over time. Researchers started with 140,000 hours of YouTube videos of talking people in various situations, yielding nearly 4000 hours of footage consisting of mouth movements for each phoneme or word sound, and more than 127,000 English words. The AI program misidentified only 41% of the words, beating the best previous performance by DeepMind/Oxford. A weakness is the requirement for clear, straight-ahead video, and the high error rate which still, compared to human expert lipreaders, is superior.

Telehealth Assessment and Virtual Reality

The growth of these technologies has grown exponentially in the last decade in the United States and Canada and is expected to continue into the foreseeable future. Becker and Spitzer (2018) presented the main advantages of telehealth to include, among others, (1) much lower cost per patient, with 60%–70% reductions compared to face-to-face visits, with nearly 40 states having some kind of telehealth reimbursement and a (2) a growth in

large telehealth companies. In 2016, Teladoc alone signed up 500 new accounts including Starbucks, Dell, Merck, Marriott, and Mercedes Benz. The authors note that telehealth can benefit 80-plus specialties, including psychiatry, psychology, and neurology.

The use of telemedicine for Veterans Administration (VA) disability and rating evaluations followed an announcement in 2011 that telemental health examinations were adequate for rating purposes for compensation and pension exams, followed by a successful large-scale pilot study in 2013 that entrenched the use of this technology in the VA (Dinesman, 2014). The VA shifting to this type examination which conformed to American Psychological Association (APA) forensic guidelines was deemed necessary due to the huge increase in post-traumatic stress disorder (PTSD) and head injury claims from veterans in our ongoing wars. Deemed “legally defensible” and “medically complete,” an unanswered question has to do with the untested reliability and validity of telehealth examinations compared to the traditional, pre-2000 compensation and pension examination involving several hours of face-to-face interviewing and testing after a complete review of medical and psychological records. The lack of demonstrated reliability and validity plagues the occasional use of teleconferencing procedures by forensic professionals in criminal cases. We just don’t know the degree of deception and distortion inherent in such procedures due to the many additional variables brought into this mode of assessment.

The same concern applies to the increasing use of virtual reality (VR) in professional psychology and healthcare facilities. There are promising developments directed toward symptoms and adaptive behavior for phobias, stress/post stress, attention deficit hyperactivity disorder (ADHD), autism, and other challenges and, at the same time, the cost of VR systems has been reduced from around \$75,000 to a few hundred dollars (Weir, 2018). And VR is touted as adding a real-world element to the test. Weir (2018) shows that VR is being researched for companies around the world, especially in the United Kingdom and United States, for determining whether a person should be hired or is able to return to their job. Traditionally, this would entail a time-consuming formal vocational evaluation that must meet professional standards and be consistent with the professional’s ethical code.

A challenging development is that the VR literature could be introduced by a defense attorney’s experts to help exculpate or mitigate their defendant’s alleged criminal behaviors. Bordnick and colleagues (2009), for example, found VR determinative in assessing a person’s reactivity to alcohol.

VR can and has been used in the courts to add ecological validity to the evidence—transporting the jury “to a mesothelioma inside a patient’s lungs, to the intersection where an accident occurred, or placed in a grisly crime scene” (Kaufman, 2017). To this, you could add the possibility of VR being used in a civil-forensic evaluation. Plaintiff attorney Mitch Jackson told Kaufman in preparation for his article: “I believe that in 10 years, most trial lawyers will be using VR just like they’re using laptops today. VR will be the norm, not the exception.”

Advances in Other Disciplines

Cross-disciplinary concepts and methods are utilized in this book in order to understand deception. These include ideas from biology, philosophy, neuropsychology, developmental psychology, industrial psychology, cognitive science, and sociology. Statistics and probability theory are employed when appropriate. Empirical study in deception

analysis in text-based computer-mediated communication has yielded positive results (Zhou, Burgoon, Nunamaker, & Twitchell, 2004). Their experiment studied the effectiveness of automated linguistics-based cues on text messaging based on 27 cues from prior research. They found that deceptive text messages were associated with: (1) longer messages with more information than control Subjects (Ss), (2) more use of nouns, (3) more mistakes, (4) more uncertainty, (5) non-immediate responses, (6) less complex and more concrete, and (7) less diverse than truth tellers.

Advances in statistical tools are useful to assess deception. The binomial probability distribution, for example, provides the underpinnings for forced-choice testing and explicit alternative testing (EAT), as covered in previous chapters. Detection rates for faking are favorable, now in excess of 90% for some subpopulation groups using some measures of deception (see reviews in Hall, Poirier & Thompson, 2007; Hall, 2008). Three different methods for calculating the binomial probability have been presented: (1) using a commonly accepted statistical formula, (2) looking up the probability in a binomial distribution table, and (3) going to the Internet in search of websites related to calculating values from statistical distributions.

Police Screening and Group Testing

Group screening by police departments is generally comprehensive as well as diverse and yields highly accurate and useful information. One of the authors (HH) has assisted four state and county police departments and consulted with two federal law enforcement agencies. This includes psychological screening of over 4000 applicants for police officer and radio dispatch operator jobs. To rule out the problematic applicants, the method involves: (1) administering a structured psychological and background interview of applicants in critical areas having to do with prior psychiatric/psychological treatment or problems, prior violence, indebtedness and defaults and bankruptcies, and present symptoms of maladjustment, (2) administering at least six reliable and valid objective tests with police and public safety norms, (3) review of responses on a lengthy structured history form covering virtually every domain in an applicant's personal, vocational, and social life, (4) review of a mandatory polygraph with pre and post interviews by the polygrapher. Examinees often reveal the most important information from these interviews, (5) reviewing results of drug screening—not generally known by the public is that many police departments “forgive” drug usage if the applicant did not recently partake of those drugs, (6) information from the criminal history summary record (“rap sheet”) including information from the federal databases, and (7) reviewing results of the police panel interview including stress-related questions and challenges.

The use of this seven-factor system resulted in an increase in the quality of the selected officers as measured by standard indicia. More female officers were selected, far fewer police violent encounters with persons in the general community occurred, and national awards were received by the police department in community policing and outreach programs. The positive trends held into the twenty-first century. As of 2010, police screening was practiced by more than 50% of the 12,000 police departments in this country (Dantzker, 2011). A key finding in the success of the screening program was the high probability of detection of deception from the job candidates by the validity indicia in objective testing. A rule hidden from the applicants by the police departments was that any uncovered lie,

no matter how small, was automatic grounds for non-selection. This finding applied to applicants who topped the fake good and fake bad scales on objective testing.

By 2010, several problems may have contributed to the slackening off of the positive benefits of police screening as reflected in the empirical literature. A review by Dantzker (2011) suggested a serious dearth of evidence regarding which protocols and tests were to be selected to see applicants. He also reviewed studies showing no significant differences between clinical psychologists and police psychologists in their choice of protocols and general effectiveness.

A more serious problem concerns the applicants finding and using online sites showing how police applicants can achieve the best performance on the measures employed, with some of these “professionals” offering workshops and detailed training on how to “beat the system.” This is a recipe for producing fake good profiles. It helps somewhat that cut-off points for rejection are not well articulated in the police psychology literature. A perennial problem is the continual attempts by police department administrators to bypass the objective criteria for selection and select or reject applicants based on friendships and relationship ties.

How these limitations in police screening tie into police-initiated violence is unknown, but it does suggest that renewed attention in the future be paid to: (a) utilizing more reliable and valid psychological and deceptive-detecting subtests and measures, (b) clear boundaries and integrative training between administrative personnel and evaluators, and (c) close follow-up with selected applicants during the first year of their duty.

Overall, psychological screening for police officer applicants is demonstrably positive for the community, police department, the forensic professional, and the applicants themselves. Police screening as it is currently practiced, with all its challenges, stands as the best example of the deception analysis today.

Drones and Ground Robots

Game-changing advances in war technology, mass surveillance, and a shift toward authority rule have occurred in this country (see [Chapter 2](#)). War is fundamentally changing and multifaceted, and in many cases undetectable deception has and will play an integral part. Drones are only one of a soon-to-be reality in lethal weapons of unimaginable and indefensible destructiveness (see Defense Advanced Research Projects Agency, DARPA, 2019, website). These include stealth drones, the technology of which has been worked on since the F-117A drone flew successfully in 1977, the creation of miniature drones, and use of high altitude autonomous drones for which defense against is almost impossible. Weaponized drones thousands of feet into the air are not visible and have high mobility.

Imagine how swarms of miniature deadly drones used in coordination with ground robots and other capabilities would change the nature of urban or war with a foreign power. The U.S. Defense Department’s research wing DARPA is serious about putting much more sophisticated drones into action, not just one by one, but in coordinated and semi-autonomous swarms. The website states:

DARPA’s OFFensive Swarm-Enabled Tactics (OFFSET) program envisions future small-unit infantry forces using swarms comprising upwards of 250 unmanned aircraft systems (UASs) and/or unmanned ground systems (UGSs) to accomplish diverse missions in complex urban

environments. By leveraging and combining emerging technologies in swarm autonomy and human-swarm teaming, the program seeks to enable rapid development and deployment of breakthrough capabilities.

DARPA announced that funds for swarm development were to be awarded to the following companies:

- Lockheed Martin, Advanced Technology Laboratories
- SoarTech, Inc.
- Charles River Analytics, Inc.
- University of Maryland
- Carnegie Mellon University

Each of these awardees will focus on generating novel tactics for a multifaceted swarm of air and ground robots in support of the mission to isolate an urban objective, such as conducting reconnaissance, generating a semantic map of the area of operations, and/or identifying and defending against possible security risks.

Advances in AI and robotics should be considered as game changers that will affect all aspects of human society in years to come.

Weaponized Ground Robots

Ryan (2018) stated in a “War on the Rocks” commentary entitled: “Intellectual preparation for future war: How artificial intelligence will change professional military education.”

And while there is much ethical debate in the West about the application of autonomous weapon systems, as Ian Morris has written, “when robots with OODA [observe, orient, decide, and act] loops of nanoseconds start killing humans with OODA loops of milliseconds, there will be no more debate.”

Insights into the applications of artificial intelligence are widely available from civilian businesses. Microsoft’s Cortana, Google’s Now, Amazon’s shopping sites, Netflix’s streaming algorithms, and Apple’s Siri all combine user input, access to large databases, and complex algorithms to provide decision support for human users based on their previous decisions, as well as the habits of previous buyers or users. This represents, as Yuval Harari has described, a slow and steady shift of authority from humans to algorithms.

In a position paper entitled “The operational environment and changing character of future warfare,” The U.S. Department of Defense (2017), U.S. Army Training and Doctrine Command (TRADOC), described AI as, “the most disruptive technology of our time,” which, nevertheless, they feel forced to integrate into all military platforms and personnel training and operations. They stated:

The U.S. military, and therefore, the U.S. Army, finds itself at a historical inflection point, where disparate, yet related elements of the Operational Environment (OE) are converging, creating a situation where fast moving trends across the Diplomatic, Information, Military, and Economic (DIME) spheres are **rapidly transforming the nature of all aspects of society and human life** – including the character of warfare. (Emphasis added).

The TRADOC paper comments on the future of warfare through 2050, which in our view is a continuum divided into two distinct timeframes. They divide the future into likely scenarios:

The Era of Accelerated Human Progress, 2017–2035, which relates to a period where our adversaries can take advantage of new technologies, new doctrine, and revised strategic concepts to effectively challenge U.S. military forces across multiple domains.

The Era of Contested Equality, 2035–2050, which period is marked by significant breakthroughs in technology and convergences in terms of capabilities, which lead to significant changes in the character of warfare. During this period, traditional aspects of warfare undergo dramatic, almost revolutionary changes which at the end of this timeframe may even challenge the very nature of warfare itself. **Adversaries will adopt sophisticated information operations and narrative strategies to change the context of the conflict and thus defeat U.S. political will. (Emphasis added).**

Other salient points paint a dismal picture of the future:

In future conflicts, decision cycles are likely to become faster than the capacity of human cognition to process.

This almost guarantees the development of fully autonomous systems, as well as training in AI for personnel to do their discrete jobs in the interfacing, and simultaneously occurring operational algorithms.

In this environment, where all sides may possess artificial intelligence and autonomous systems, TRADOC correctly believes the race will go to the intellectually swift with the most war-related resources. This is a conflict-oriented approach that leaves little room for peace-directed initiatives as, sadly, has been the story for almost all previous American wars.

They continue:

A global populace that is increasingly attuned and sensitive to disparities in economic resources and the diffusion of social influence will lead to further challenges to the status quo and lead to system rattling events like the Arab Spring, the Color Revolutions in Eastern Europe, the Greek monetary crisis, BREXIT, and the mass migrations to Europe from the Middle East and North Africa, many of which will come with little warning. Also, the world order will evolve with rising nations to challenging the post-Cold War dominance of the U.S.-led Western system.

Humanity will become richer, older, more urban, and better educated, but the uneven distribution of this progress will accelerate tension and conflict. The convergence of more information and more people with fewer state resources will constrain governments' efforts to address rampant poverty, violence, and pollution, and create a breeding ground for dissatisfaction among increasingly aware, yet still disempowered populations.

Life will become both easier and more complex, with those able to take advantage of the leading edge of technological advancement increasingly exploiting those who cannot.

In the most connected and wealthy parts of the world, cell phones and computers will all but disappear as physical, hand held devices. **Select individuals will directly connect to cyberspace through neural implants or augmented reality systems painted directly on a retina.** If we have not yet reached the "singularity", where AI and machines are capable of outperforming the human mind, we will nonetheless have reached a point where AI, machines, and man-machine teaming open new possibilities in this realm. (Emphasis added)

Encrypted blockchains will be massively disruptive to commerce functions. ¹² Together with robotics, autonomy, and AI they comprise a perfect storm for “blue collar” and “white collar” alike, causing vast economic displacement as formerly high-quality information technology and management jobs follow the previous path of agricultural and manufacturing labor. Militaries, paramilitaries, mercenary groups, criminal elements, and even extremists groups all will be able to take advantage of this potential pool of manpower.

TRADOC discusses potential game changers to 2035:

Evolutionary technologies that, if matured and fielded, can provide a decisive edge over an adversary unable to match the capability or equal the capacity. They include but are not limited to robotics, AI, chemical weapons, missiles, weaponized space, **and deception, the last which creates uncertainty and challenges to multi-discipline intelligence.** (Emphasis added.)

Military operations will increasingly be aimed at utilizing the cognitive and moral dimensions to target an enemy's will. As a result, there will be less self-imposed restrictions by some powers on the use of military force, and hybrid strategies involving information operations, direct cyber-attacks against individuals, segments of populations, or national infrastructure, terrorism, the use of proxies, and WMD will aim to prevail against an enemy's will.

Here, the knowledge of the behavioral sciences and neurosciences will be utilized to harm enemies. As such, there is a direct contradiction with the ethical and provider codes of forensic professionals in doing no harm to those who receive our services. Again, [Chapter 2](#) elaborates on these themes and should be reviewed.

It is beyond the scope of this book to evaluate the thinking and policies of the U.S. government in regard to future warfare. However, self-deception looms as a possibility when anticipation of aversive events, albeit based on current trends, acts as a self-fulfilling prophecy. Believing a massive war is evitable, as well as concurrent widespread civil unrest and rebellion, increases the probability those events will occur. We reviewed literature indicating that wars perceived as unjust or immoral, as when disproportionate or indefensible lethal violence is shown, tend to be lost in the long run or, at best, result in devastating loss to both sides if one side is technologically superior.

Summary and Recommendations

What is needed is a radical mental shift from the notion that it is perfectly okay and, in fact, obligatory to vigorously deceive and aggress against our perceived enemies, either domestic or foreign, and exploiting every advantage and capitalizing on vulnerabilities, to a mindset leading to genuine individual and group decisions and action that lower the threshold for genuine peace to occur.

Regarding forensic professionals, it should be understood that the unrelenting advance in technological developments is indeed enhancing our knowledge of deception detection, yet reliability and validity issues will continue to challenge the usefulness of the technologies in various forensic settings and situations for the foreseeable future. Perhaps this is good, as we have seen how technological advances have outstripped the moral development of our leaders. The forensic professional should be aware of the dependency that

needing expensive instrumentation creates, the frequent focus away from ethics by a primary reliance on technology, and the temptation to ignore our ethical mandate to do no harm to others, directly or indirectly.

It is highly recommended to use the applied model of FDA-5 and heuristic decision path provided in this book. To address possible deception in the examinee, you must first account for non-deliberate distortion. Otherwise you may not know that signs of malingering, for example, are actually due to an impoverished intellect or compromised traits and abilities. Concerning deliberate deception, a wide database of reliable and valid measures is available to rule in or rule out the basic deceptive response styles—faking good (minimizing, denial, and defensiveness), faking bad (malingering, exaggerating, fabrication), attempts to invalidate the evaluation, combination styles (e.g., consistently faking good for some traits, events and consistently faking bad for others), and a fluctuating response style within one session (e.g., a random invalidation style coupled with inconsistent faking good and bad to fool the examiner). With neuropsychological and achievement/ability testing, remember that deceptive persons cannot do better than their best performance, so, essentially, you have an easier task of looking for suboptimal performance (faking bad), perhaps with attempts at invalidation. The fake good measures are primarily found on objective psychological testing.

Because of the ability of the well-trained and competent forensic professional to integrate a large range of data into a coherent and empirically supported set of conclusions, it is exceedingly unlikely that forensic professionals will be rendered obsolete in our vocational role in the foreseeable future. Indeed, the forensic professional has many ways he or she can be of service to the criminal and civil justice systems, as well as the community at large. It is the authors' prediction that adequately prepared and ethically bound forensic professionals will be vitally needed in the coming decades.

This is our best advice for the future of your forensic work. You cannot change megatrends as discussed in this book; however, be aware of them and adapt the best you can. Stay focused on ethics and objectivity, and recognize that many of the people we evaluate in a criminal or civil context do not initiate the evaluation, but need to be assessed if they desire a certain legal process, such as asserting insanity or adhering to the discovery rules of tort litigation. This means we are challenged with adversarial-based evaluations. In the end, the adversarial nature of the legal system holds that truth will emerge from both sides of a contested issue. If a forensic psychologist, or a professional psychologist of any subspecialty who performs forensic services, you should become intimately familiar with the latest editions of the ethical code, forensic guidelines, and testing standards of the American Psychological Association. They may be advantageously applied in forensic evaluations or settings which are putatively adversarial in nature. The standards, for example, allow for the use of qualitatively and non-normed measures if they are identified as such with the findings used to generate hypotheses about examinees for further assessment. Forensic professionals of other disciplines should use their equivalent of our ethical and provider codes.

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Appendix A

Pain Survey Checklist (PSCL)

Full name _____

Date _____

Other names used _____

Birth date _____

Reason for referral _____

Soc. Sec. No. _____

Referral source _____

In state since _____

Place of birth _____

Sex _____

Educational level and
last school attended _____

Race/ethnic group _____

Occupation _____

Employer's name, address, and phone no.

Your residential address and phone no.

Attorney's name, address, and phone no. (for pending legal cases or workers' compensation)

PHYSICAL QUESTIONS

1. Your height _____
2. Your weight _____
3. Blood type _____

4. List all disorders or diseases you have had in the past

5. List all significant injuries you have had in the past

6. List all present medical or psychological conditions you have now

7. List operations and dates

8. List hospitalizations and dates

9. Who is your primary physician?

Address _____

Date of last physical exam _____

10. What other doctor(s) are you seeing?

11. Have you been treated for a psychological concern? What, when, and by whom?

12. Is there a family history of similar pain problems? Please explain.

13. Have you ever been treated for this pain condition in the past? Explain.

14. What is your overall physical condition?

PAIN QUESTIONS

1. When did your present pain start?

Where was that?

Who was there at the time besides yourself?

What were you doing?

What did you do about the pain?

In your opinion, what do you think was the cause of the pain?

2. Did your pain start gradually? _____ Suddenly? _____ Did it spread? _____

Explain any details _____

3. What is the most frustrating thing about your pain?

4. Can you work? _____ Have you changed jobs? _____

5. What do your relatives or acquaintances do when you show pain?

6. What factors seem to bring on or are associated with the pain?

7. Where do you feel your pain now?

8. Is your pain with you all the time? Or does it change during the day? Please explain.

9. Does your pain spread?

10. Does your pain describe a pattern (e.g., continuous, periodic, brief)?

11. How long does it take for the worst pain to develop?

12. How long does your pain usually last?

13. How many times during a typical day do thoughts of pain cross your mind?

14. How would your future life change if your pain went away for good?

When I Experience the Following,

	My Pain Is:			
	Better	Worse	Same	Comment
Coughing or sneezing				
Alcohol drinking				
Riding in a car				
Waking up in the morning				
Experiencing tension				
Cold				
Dampness				
Middle of night				
Lying on my back				
Urinating				
Defecating				
Having sex				
Sitting (straight chair)				
Sitting (soft chair)				
Being massaged				
Talking with people				
In whirlpool/Jacuzzi				
Brushing teeth				
Sleeping or napping				
Standing				
Distracted (TV, etc.)				
Hearing loud noises				
Middle of the day				
Lying on side with knees bent				
Doing housework				
Exercising				
Seeing bright lights				
Tired				
Weather changes				
Drinking coffee or tea				
Eating a meal				
Swimming				

	My Pain Is:			
	Better	Worse	Same	Comment
Working at my job	_____	_____	_____	_____
Standing after sitting	_____	_____	_____	_____
Lifting	_____	_____	_____	_____
Walking	_____	_____	_____	_____
Running	_____	_____	_____	_____
Leaning over	_____	_____	_____	_____
Swallowing	_____	_____	_____	_____
Elevated blood pressure	_____	_____	_____	_____
Certain foods	_____	_____	_____	_____
Boredom	_____	_____	_____	_____
Being alone	_____	_____	_____	_____

1. What medication did you take for any reason before the injury or pain started?

Medication/Purpose	How long did you take it?	How effective was it?
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. What medication have you taken specifically for the pain?

- _____ dosage: _____ times a day: _____
- _____ dosage: _____ times a day: _____
- _____ dosage: _____ times a day: _____
- _____ dosage: _____ times a day: _____

3. How well does the medication work?

4. What other medication do you take these days?

- _____ dosage: _____ times a day: _____
- _____ dosage: _____ times a day: _____
- _____ dosage: _____ times a day: _____
- _____ dosage: _____ times a day: _____

5. What do you do besides taking pain medication to relieve pain?

6. How much alcohol do you drink on the average during the week?

7. What kind of alcohol?

8. Do you mix alcohol with medication (i.e., take at the same time)?

9. What kind of over-the-counter medication do you take?

10. Do you take any illicit drugs? Which kind?

11. Have you ever received a traffic citation for alcohol or drug-related behavior (e.g., DUI)?

What	When	Where	Disposition

12. What other arrests, if any, have you had since 18 years of age?

What	When	Where	Disposition

13. Have you ever received treatment for a drug/alcohol problem?

What	When	Where	Disposition

14. Does drinking coffee or tea bring on or affect the pain?

15. What other factors associated with eating food or drinking liquid affect your pain?

Signs that accompany my pain (Mark all that apply)

	Before Pain	During Pain	After Pain
A. Dull ache			
B. Sharp pain			
C. Burning			
D. Steady pain			
E. Throbbing pain			
F. Deep pain			
G. Shooting pain			
H. Tingling			
I. Pins and needles			
J. Tender to touch			
K. Vomiting			
L. Feeling sick			
M. Fear			
N. Stress			
O. Rapid breathing			
P. Dizziness			
Q. Heart beating fast			
R. Flushed			
S. Blurred vision			
T. Sweating			
U. Fainting			
V. Bleeding			
W. Skin color change			
X. Epileptic seizures			
Y. Falling down			
Z. Others (specify)			

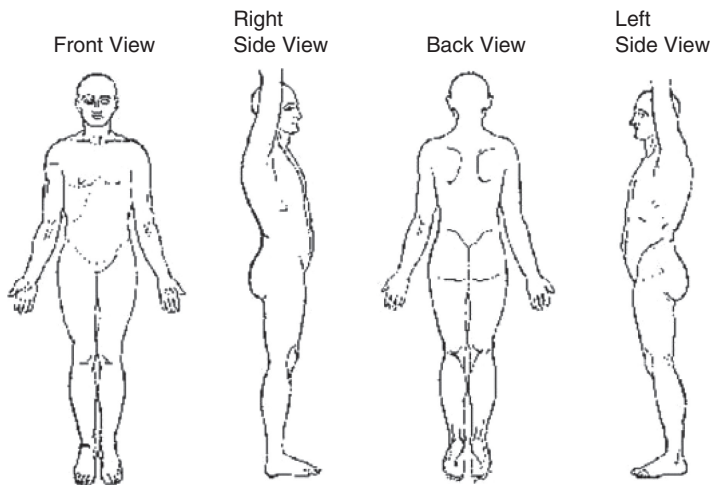
Please give your comments on anything which would help us understand your pain better.

List several people who can be reached for additional information.

Name	Relationship	Address	Phone No.

PAIN CHART

- Please mark all the locations of pain and numbness on your body. Use two different colors of markers, one for pain, and the other for numbness.



My color code for the above drawing:

The _____ color stands for pain.

The _____ color stands for numbness.

2. Now just for the pain locations, please put letters inside the marked areas to indicate any of the following:
 - Write A to indicate a dull ache.
 - Write B to indicate a sharp pain.
 - Write C to indicate a burning pain.
 - Write D to indicate a steady pain.
 - Write E to indicate a throbbing pain.
 - Write F to indicate a deep pain.
 - Write G to indicate a shooting pain.
 - Write H to indicate a tingling pain.
 - Write I to indicate pins and needles.
3. For traveling pain, draw a line from where it starts to where it ends.
4. For pain you feel right now, show where the pain is with the color marker.

Appendix B

Self-Control and Instant Offense Behaviors

CHECKLIST OF DEFENDANT COMPETENCIES

Please take time to fill out this checklist as carefully as you can before drawing conclusions in regard to a particular criminal case. This checklist may be helpful to the forensic professional in assessing different levels of self-control before, during, and after alleged criminal behavior.

In several of the sections, you will be asked to think about the sequence of the alleged behaviors in addition to a number of content factors. The ultimate purpose of this checklist is to illuminate the decision path of the evaluator. Please try to go along with this new perspective because, in doing so, you may be able to gain additional insight into the ability of the defendant to choose and self-regulate instant offense behaviors.

Evaluator's Name _____
 Agency _____

PART A: DEMOGRAPHIC AND BACKGROUND FACTORS

Present Date _____
 Accused's Full Name _____
 Address _____

Contact parties	Relationship to accused	Phone number(s)
_____	_____	_____
_____	_____	_____

Aliases _____
 Social Security No. _____
 Reason for Referral _____
 Criminal No. _____
 Referral Source _____
 Charges _____
 Date of Birth _____
 Place of Birth _____
 In State Since _____
 Sex _____
 Marital Status _____
 Race/Ethnic Group _____
 Languages Spoken _____
 Educational Level _____
 Occupation _____
 Hand Dominance _____

Accused's
 Height _____ Weight _____ lb Blood Type _____

Victim's
 Height _____ Weight _____ lb Blood Type _____

Background Factors

- History of alcohol abuse or dependence? Specify

- History of drug abuse or dependence? Specify

- Psychiatric/Psychological History

Date of Diagnosis	Diagnosis	Agency	Therapist

Specify if there is a history of critical conditions/events not presented previously (e.g., psychosis, retardation, brain damage, and homicidal/suicidal behaviors)_____

- Juvenile Arrest History

Offense	Date of Offense	Disposition	Date of Disposition

- Adult Arrest History

Offense	Date of Offense	Disposition	Date of Disposition

- Physical/mental deterioration for 1 week before alleged offense? Specify

- Physical/mental deterioration for 90 days before alleged offense? Specify

- Physical/mental deterioration for 1 year before alleged offense? Specify

- Anticipated stressors at time of instant offenses? Specify

- Employment in the 3 months before evaluation:

_____ None _____ Part-time _____ Full-time

Where and what? _____

- Estimated income from employment in last year \$_____/year

Current Factors

1. Is accused fit to legally proceed (if no, why not)?

2. Accused's present status

_____ Incarcerated _____ Outpatient _____ Inpatient

3. Present medications

4. Present alcohol abuse or dependence? _____ Yes _____ No

5. Present drug abuse or dependence? _____ Yes _____ No

6. Significant current psychiatric deficits or problems

7. Relevant medical problems

8. Relevant other current information

PART B: BASAL VIOLENCE ANALYSIS

Previous violence to others is scrutinized to determine whether instant violence is part of a habit pattern or an isolated event. Since attaining adulthood, indicate whether each act of significant violence had the associated feature listed on the left. Threats to do significant violence to another are considered violence and are rated as such. First, threats create psychological trauma in victims. Second, some threats are arrestable behaviors (e.g., robbery and terroristic threatening).

Look at the entire basal history of violence to see if trends emerge. Determine whether these trends are operative in the instant violence and the degree to which they were the result of choice and self-control factors.

[illegible]

Associated Features of Previous Violence	No. of Violent Acts to Others						
	1	2	3	4	5	6	7
11. Positive consequences for violence (e.g., money, praise, or no incarceration)	_____	_____	_____	_____	_____	_____	_____
12. Disrupted central love relationship (e.g., from intimate other)	_____	_____	_____	_____	_____	_____	_____
13. Work-related violence	_____	_____	_____	_____	_____	_____	_____
14. Characteristics of victims							
a. Female gender	_____	_____	_____	_____	_____	_____	_____
b. Weighs less than accused	_____	_____	_____	_____	_____	_____	_____
c. Shorter than accused	_____	_____	_____	_____	_____	_____	_____
d. Alone before violence	_____	_____	_____	_____	_____	_____	_____
e. Victim displayed weapon	_____	_____	_____	_____	_____	_____	_____
f. Physical infirmity	_____	_____	_____	_____	_____	_____	_____
15. Violence context characteristics							
a. Night-time occurrence	_____	_____	_____	_____	_____	_____	_____
b. Weekend occurrence	_____	_____	_____	_____	_____	_____	_____
c. Private residence	_____	_____	_____	_____	_____	_____	_____
d. Public building	_____	_____	_____	_____	_____	_____	_____
e. Roadway or transportation system	_____	_____	_____	_____	_____	_____	_____
f. Property aggression involved	_____	_____	_____	_____	_____	_____	_____
16. Acknowledgment of violence (e.g., spontaneous statements or written)	_____	_____	_____	_____	_____	_____	_____
17. Apologizes for violence	_____	_____	_____	_____	_____	_____	_____
18. Suicidal/self-mutilative gestures in response to violence	_____	_____	_____	_____	_____	_____	_____

Synthesis: Examine the above tables after completion for behavioral themes. Look for themes that are common both to previous violence and the instant case. Place the common descriptors on the assault cycle.

Estimate of Self-Control by Temporal Period

	Instant Violence		
	Before	During	After
Substantial	_____	_____	_____
Considerable	_____	_____	_____
Moderate	_____	_____	_____
Mild	_____	_____	_____
Minimal	_____	_____	_____
Negligible	_____	_____	_____

Combining all events within a time period, present the overall degree of self-control for *before*, *during*, and *after* the instant violence on the above histogram.

PART C: DAY OF ALLEGED OFFENSE (DATE, TIME, AND DAY OF WEEK)

Event	Defendant Time	Specify Behavior	Victim Time	Specify Behavior
1. Significant events the night before	_____	_____	_____	_____
2. Intoxicating substances ingested before instant violence occurred	_____	_____	_____	_____
3. Procurement of weapons	_____	_____	_____	_____
4. Presence of other people	_____	_____	_____	_____
5. Arrival at instant violence scene	_____	_____	_____	_____
6. First sighting of victim (accused)	_____	_____	_____	_____
7. Verbal interaction with victim (accused)	_____	_____	_____	_____
8. Time of instant violence	_____	_____	_____	_____
9. Time left scene	_____	_____	_____	_____
10. Destination	_____	_____	_____	_____

Perpetrator and Victim Characteristics at the Time of the Instant Offense

Please check as many as apply. Fill in the blanks when indicated.

P = Perpetrator V = Victim

P	V	Sex	P	V	Build
_____	_____	Male	_____	_____	Skinny
_____	_____	Female	_____	_____	Slim
_____	_____	Unknown	_____	_____	Medium/Average
_____	_____		_____	_____	Heavy
_____	_____	Known Age	_____	_____	Husky
_____	_____		_____	_____	Muscular
_____	_____	Estimated Age	_____	_____	Fat
_____	_____	Below 15 years	_____	_____	Unknown
_____	_____	15 to 19 years			
_____	_____	20 to 24 years			
_____	_____	25 to 29 years	_____	_____	Posture
_____	_____	30 to 39 years	_____	_____	Stooped
_____	_____	40 to 49 years	_____	_____	Bowed Legs
_____	_____	50 to 65 years	_____	_____	Bent to One Side
_____	_____	Over 65 years	_____	_____	Normal/Erect
_____	_____	Unknown	_____	_____	Stiff

P	V		P	V	
		Height			Gait
_____	_____	Under 5'0"	_____	_____	Slow
_____	_____	5'0" to 5'1"	_____	_____	Shuffle
_____	_____	5'2" to 5'3"	_____	_____	Limp
_____	_____	5'4" to 5'5"	_____	_____	Walks with cane
_____	_____	5'6" to 5'7"	_____	_____	Normal
_____	_____	5'8" to 5'9"	_____	_____	Fast
_____	_____	5'10" to 5'11"	_____	_____	Runs
_____	_____	6'0" to 6'1"	_____	_____	Unknown
_____	_____	6'2" to 6'3"	_____	_____	Unusual Manners
_____	_____	6'4" to 6'6"	_____	_____	_____
_____	_____	Over 6'6"	_____	_____	Unknown
		Weight			
_____	_____	Under 100 lbs			Accent
_____	_____	100 to 119 lbs	_____	_____	_____
_____	_____	120 to 139 lbs	_____	_____	_____
_____	_____	140 to 159 lbs	_____	_____	Unknown
_____	_____	160 to 179 lbs.	_____	_____	
_____	_____	180 to 199 lbs.			Injuries
_____	_____	200 to 219 lbs	_____	_____	_____
_____	_____	220 to 239 lbs	_____	_____	_____
_____	_____	240 to 260 lbs	_____	_____	Unknown
_____	_____	Over 260 lbs	_____	_____	
		Ethnicity			Tattoos
_____	_____	Black	_____	_____	Arm, left
_____	_____	White	_____	_____	Arm, right
_____	_____	Hispanic	_____	_____	Back
_____	_____	Chinese	_____	_____	Chest
_____	_____	Filipino	_____	_____	Fingers, left
_____	_____	Hawaiian	_____	_____	Fingers, right
_____	_____	Japanese	_____	_____	Hand, left
_____	_____	Polynesian	_____	_____	Hand, right
_____	_____	Portuguese	_____	_____	Leg, left
_____	_____	Samoan	_____	_____	Leg, right
_____	_____	Mixed/Combo	_____	_____	_____
_____	_____	_____	_____	_____	Unknown
_____	_____	Unknown			

P	V		P	V	
					Head Hair—Length
		Body Scars			Bald
		Abdomen, left			Crew Cut
		Abdomen, right			Neck Length
		Arm, left			Shoulder Length
		Arm, right			Long
		Back			Unknown
		Chest			
		Hand, left			Facial Hair—Type
		Hand, right			Mustache
		Leg, left			Goatee
		Leg, right			Beard
		Wrist, left			
		Wrist, right			Unknown
		Unknown			
		Facial Scars			Facial Hair—Color
		Cheek, left			Black
		Cheek, right			Brown
		Chin			Blond
		Eyebrow, left			Red
		Eyebrow, right			Gray
		Forehead			White
		Harelip			
		Lip, lower			Unknown
		Lip, upper			
		Nose			Eyes—Color
		Ears, pierced			Black
					Brown
					Blue
					Gray
					Green
		Jewelry			Unknown
		Other (e.g., hearing aid)			Eyes—Glasses
					Bifocals
					Other prescription
					Contact lenses
					Sunglasses

P	V		P	V	
		Head Hair—Color			Reflective
		Black			
		Brown			Unknown
		Blond			
		Dirty blond			Eyes—Glasses Frames
		Red			Wire
		Gray			Plastic
		White			Rimless
					Clear
		Unknown			
					Unknown
		Head Hair—Style			Eyes—Traits
		Straight			Crossed
		Curly			Squinted
		Wavy			Bloodshot
		Afro			Dilated/constricted
		Tied back			pupils
		Braided			Lazy eye
		Neat			Wide
		Flat top			Missing, left
		Wig			Missing, right
		Unknown			
					Unknown
		Complexion			Clothing
		Pale			Aloha shirt
		Fair			T-shirt
		Medium			Pullover
		Ruddy			Sport shirt
		Tanned			Dress shirt
		Brown			Blouse
		Black			
		Clear			
		Moles			None
		Freckles			Unknown
		Blackheads			
		Acne/pimples			Sleeve length
		Pock-marked			
		Birthmark			Markings
		Unknown			

P	V		P	V	
		Teeth			Clothing—Trousers
_____	_____	Yellow	_____	_____	Jeans
_____	_____	White	_____	_____	Dress Slacks
_____	_____	Normal	_____	_____	Shorts
_____	_____	False	_____	_____	None
_____	_____	Broken	_____	_____	Casual
_____	_____	Braces	_____	_____	Corduroy
_____	_____	Missing	_____	_____	_____
_____	_____	Stained	_____	_____	Unknown
_____	_____	Filled	_____	_____	Length
_____	_____	_____	_____	_____	_____
_____	_____	Unknown	_____	_____	Markings
			_____	_____	_____
		Mouth			Clothing—Shoes
_____	_____	Stink breath	_____	_____	Barefoot
_____	_____	Alcohol smell	_____	_____	Slippers
_____	_____	Saliva	_____	_____	Dress shoes
_____	_____	Normal	_____	_____	Work shoes
_____	_____	Unusual lips	_____	_____	Boots
_____	_____	Mouth concealed	_____	_____	Sandals
_____	_____	Unknown	_____	_____	Unknown
			_____	_____	Color
			_____	_____	_____
			_____	_____	Material
			_____	_____	_____
		Hands			Clothing—Dress
_____	_____	Small			Muumuu
_____	_____	Stubby			Formal
_____	_____	Large	_____	_____	Casual
_____	_____	Spotted	_____	_____	Work
_____	_____	Normal	_____	_____	Unknown
_____	_____	Hairy	_____	_____	Color
_____	_____	Injured	_____	_____	_____
_____	_____	_____	_____	_____	Length
_____	_____	Unknown	_____	_____	_____
			_____	_____	Markings
			_____	_____	_____

P	V		P	V	
		Clothing—Hat			Vehicle
_____	_____	Baseball cap	_____	_____	Automobile
_____	_____	Business	_____	_____	Bicycle
_____	_____	Military	_____	_____	Motorcycle
_____	_____	None	_____	_____	Truck
_____	_____	_____	_____	_____	_____
_____	_____	Color	_____	_____	Unknown
_____	_____	_____	_____	_____	Make
_____	_____	Designs	_____	_____	Color
			_____	_____	Year
			_____	_____	Unusual features
			_____	_____	Decals
			_____	_____	Tag No.
		Type of Weapon			Criminal Occupation
_____	_____	Arson	_____	_____	Arson
_____	_____	Ax	_____	_____	Burglary
_____	_____	Blunt instrument	_____	_____	Fraud
_____	_____	Firearm	_____	_____	Gambling
_____	_____	Handgun ____ Cal.	_____	_____	Homicide
_____	_____	Shotgun ____ Ga.	_____	_____	Larceny
_____	_____	Rifle ____ Cal.	_____	_____	Motorcycle gang
_____	_____	Machine gun ____ Cal.	_____	_____	Narcotics
_____	_____	Garrotte/ligature	_____	_____	Organized crime
_____	_____	Hatchet	_____	_____	Pornography
_____	_____	Knife, large (> 6")	_____	_____	Prostitution
_____	_____	Knife, small (< 6")	_____	_____	Robbery
_____	_____	Odd/unusual weapon	_____	_____	_____
_____	_____	Physical force	_____	_____	Unknown
_____	_____	Sharp instrument			
_____	_____	(other than knife)			
_____	_____	Vehicle			Lifestyle
_____	_____	Tire Tool	_____	_____	Bisexual
		_____			Day person —

P	V		P	V	
		Type of Weapon			Lifestyle
		Unknown			in early
		Color			Heterosexual
					Homosexual
		Composition			Involved/outgoing
					Narcotics user
					Night person —
		First Seen by Others			stays out late
		Car			Socializes seldom
		Club/disco			Socializes frequently
		Date first seen			Withdrawn/shy
		Estimated time			
					Unknown
		Health club			
		Hitchhiking			Occupation
		House/apartment			Gas station
					attendant
		Playground or parks/			Business
		yards			professional
		Public conveyance			Homemaker
		School			Laborer/services
		Shopping			Street person
		Walking			Student
		Work			None
		City/state			Relator
					Priest/minister
		Unknown			Conv. store clerk
					Unknown
		Last See by Others			
		Car			
		Club/disco			
		Date last seen			
		Estimated time			
		Health club			
		Hitchhiking			
		House/apartment			
		Playground or parks/yards			
		Public conveyance			
		School			

P	V		P	V
		Last See by Others		
_____	_____	Shopping		
_____	_____	Walking		
_____	_____	Work		
_____	_____	City/state		
_____	_____	_____		
_____	_____	Unknown		

Crime Context and Modus Operandi

	Location Where Occurred		Modus Operandi
_____	Apartment/house	_____	False pretense
_____	Building	_____	Hitchhiker
_____	Construction site	_____	Impersonates doctor
_____	Field	_____	Impersonates police
_____	Hotel/motel	_____	Newspaper ad
_____	Interstate or highway	_____	Random
_____	Rural	_____	Robbery/burglary
_____	Street/alley	_____	Stalker
_____	City/state _____	_____	Stranger
_____	River/lake	_____	Victim knew suspect
_____	Woods	_____	Arms self at scene
_____	Other _____	_____	Disables lights/electricity
		_____	Disables telephone
		_____	Disables victim's car
		_____	Fingerprints removed
	Placement/Position of Victim		
_____	Buried	_____	Ransacks
_____	Concealed	_____	Suspect cleans up scene
_____	Displayed	_____	Suspect injured at scene
_____	Dumped	_____	Suspect returns to scene
_____	Face down	_____	Takes souvenirs
_____	Face up	_____	Wears disguises/gloves
_____	Fetal position	_____	Suspect takes victim's vehicle
_____	In receptacle	_____	_____
_____	In water		
_____	Moved after injury or death		
_____	Nude		
_____	Partially nude		
_____	Propped-up sitting		
_____	Fully clothed		
_____	_____		

Treatment of Victim	Vulnerability Analysis
_____ Bound	_____ Lighting _____
_____ Body covered	_____ Security _____
_____ Burned	_____ Presence of others _____
_____ Face covered	_____ Exits _____
_____ Gagged	_____ Locking system _____
_____ Handcuffed	_____ Visibility _____
_____ Kidnapped	_____ Noise _____
_____ Raped	_____ Temperature _____
_____ Sodomized	_____ History of violence _____
_____ Tortured	_____ Architecture _____
_____ Duct tape used to bind	_____ Concealment _____
_____ Rope/string used to bind	
_____ Clothes used to bind	
_____ Surgical tape used to bind	
_____ Other tape/material used to bind	
_____ _____	

Homicide Cases

Cause of Death	Technical/Physical Evidence
_____ Asphyxiation	_____ Body X-rays available
_____ Bludgeoning	_____ Casting available
_____ Burning	_____ Composite available
_____ Drowning	_____ Dental X-rays available
_____ Drug overdose	_____ Fibers
_____ Electrocutation	_____ Fingerprints available
_____ Poisoning	_____ Fingernail scrapings
_____ Scalding	_____ Fluids
_____ Cause of Death	_____ Technical/Physical Evidence
_____ Shooting	_____ Footprints available
_____ Slashing	_____ Hair
_____ Stabbing	_____ Multiple perpetrators
_____ Strangling	_____ Semen
_____ Unknown	_____ Tire impressions taken
_____ _____	_____ Weapon found at scene
	_____ _____

Secondary Wounds

- _____ Asphyxiation
- _____ Bite marks
- _____ Bludgeoning
- _____ Burning
- _____ Drowning
- _____ Drug overdose
- _____ Electrocutation
- _____ Multiple wounds
- _____ Poisoning
- _____ Scalding
- _____ Shooting
- _____ Slashing
- _____ Stabbing
- _____ Strangling
- _____ Unknown
- _____ Other _____

Articles Left on Body

- _____ Clothing
- _____ Jewelry
- _____

**Medical Information
(Describe)**

- _____ Broken bones _____
- _____ Blood Type _____
- _____ Pregnancy _____
- _____

**Condition of Body When
Found**

- _____ Mutilated
- _____ Necrophilia
- _____ Objects in throat/mouth
- _____ Objects in penis
- _____ Objects in rectum
- _____ Objects in vagina
- _____ Objects or symbols placed
on body
- _____ Penile/anal penetration
- _____ Penile/oral penetration
- _____ Penile/vaginal penetration
- _____ Possible sexual contact
- _____ Decomposed/skeletal
- _____ Other _____

PART D: SELF-CONTROL DURING THE INSTANT OFFENSE SEQUENCE

Please fill in these items based upon the various database sources relevant to the day of the instant violence.

Physical and Mental Activities

These refer to rudimentary skills and/or homeostatic activities of the defendant. They create the foundation for all self-control behaviors exhibited before, during, or subsequent to instant violence by the accused. Check the appropriate space and present comments when appropriate.

	Insufficient Data	No	Yes	Specify
Ability to sleep	_____	_____	_____	_____
Ability to eat/drink	_____	_____	_____	_____
Responds to autonomic pressure (e.g., urinates)	_____	_____	_____	_____
Self-awareness (e.g., "I" statements)	_____	_____	_____	_____
Long-term memory skills (e.g., visual, auditory, tactile, and olfactory)	_____	_____	_____	_____
Short-term memory skills	_____	_____	_____	_____
Reports cognitive activity	_____	_____	_____	_____
Awareness of surroundings (e.g., observations of environment)	_____	_____	_____	_____
Ability to estimate time	_____	_____	_____	_____
Ability to ambulate (e.g., voluntary movements)	_____	_____	_____	_____
Intact sensory skills (e.g., visual, olfactory, and hearing)	_____	_____	_____	_____
Ability to express feelings (e.g., verbalizes anger and shows rage or fear)	_____	_____	_____	_____
Intact motor skills (e.g., grasping reflex and biting)	_____	_____	_____	_____
Withdrawal reflex from pain	_____	_____	_____	_____
Voice recognition (e.g., of victim)	_____	_____	_____	_____
Self-grooming	_____	_____	_____	_____
Ability to maintain posture	_____	_____	_____	_____

	Insufficient Data	No	Yes	Specify
Ability to show facial expression	_____	_____	_____	_____
Rudimentary chaining of behaviors (e.g., tracking and moving toward visual stimulus)	_____	_____	_____	_____
Ability to drive	_____	_____	_____	_____
Other signs of basic self-regulation	_____	_____	_____	_____

Goal Formulation

Relevant to the time before the alleged violence, goal formulation taps the ability to systematically analyze and integrate the accused's awareness of self and environment. The capability of productively elaborating from a small number of cues from the crime context is also measured. The ability to think of the violent act before it occurred, as evidenced by behaviors compatible with the idea of the violence to follow, is the central issue of this section.

	Insufficient Data	No	Yes	Specify
Marked cognitive and/or behavioral focus	_____	_____	_____	_____
Ability to link thoughts with adaptive behavior (e.g., walking until entrance is found)	_____	_____	_____	_____
Verbal coherence and verbal fluency	_____	_____	_____	_____
Speaks to victim (e.g., requests money)	_____	_____	_____	_____
Controlled conversation	_____	_____	_____	_____
Appreciation of temporally distant need (e.g., need for more drugs to prevent withdrawal)	_____	_____	_____	_____
Knowledge of steps or elements in violent sequence	_____	_____	_____	_____
Cognitive mapping (e.g., navigating from home to crime scene)	_____	_____	_____	_____

	Insufficient Data	No	Yes	Specify
Shows capacity for reflective thought about violence (e.g., verbalizations that involve comparisons)	_____	_____	_____	_____
Ability to think of alternatives to instant violence	_____	_____	_____	_____
Statements to others that he or she would harm the victim (e.g., for socially undesirable behavior)	_____	_____	_____	_____
Victim a targeted individual	_____	_____	_____	_____
Personalizes victim	_____	_____	_____	_____
Other signs of goal formulation	_____	_____	_____	_____

Planning and Preparation

Relevant to the time before the alleged crime, this refers to the ability to show cognitive preparation for subsequent behaviors. Routine rehearsals for the alleged crime are the highest form of ability in this dimension.

	Insufficient Data	No	Yes	Specify
Foreknowledge of alleged crime	_____	_____	_____	_____
Creation of time schedules	_____	_____	_____	_____
Temporal ordering of steps to complete task	_____	_____	_____	_____
Ability to revise plan given new information	_____	_____	_____	_____
Completes plan in reasonable time frame	_____	_____	_____	_____
Ability to relate interpersonally to others as planned	_____	_____	_____	_____
Motor or mental rehearsal of crime sequence	_____	_____	_____	_____
Use of ruse to fool victim	_____	_____	_____	_____
Lures victim into defenseless position	_____	_____	_____	_____
Brings weapon and paraphernalia (e.g., "rape kit") to scene	_____	_____	_____	_____

	Insufficient Data	No	Yes	Specify
Telephone, lights, and security devices disabled	_____	_____	_____	_____
Other signs of planning/preparation	_____	_____	_____	_____

Effective Performance

Occurring during the violence sequence, effective performance reflects the notion that the accused may simultaneously observe and change his or her behavior in response to a fluctuating environment, all in accordance with the goal or desired object of the action sequence. Hypothesis testing is the highest form of effective performance, as when the accused changes his or her own behavior (e.g., threatens victim and puts key in lock) to see the reaction (e.g., victim acquiescence and door becomes unlocked), and then changes his or her own behavior accordingly (e.g., proceeds to rape victim and goes through door to bedroom). In essence, this skill taps the ability to show a concordance between intentions/plans and actions.

	Insufficient Data	No	Yes	Specify
Able to view environment objectively (takes abstract attitude)	_____	_____	_____	_____
Violence did not occur close to home/work (for planned violence)	_____	_____	_____	_____
Demonstrates a variety of acts (flexible behavior, as with several weapons)	_____	_____	_____	_____
Displaying multiple sets of simultaneous motor behaviors	_____	_____	_____	_____
Able to orchestrate multistep, multitask scheme (e.g., long, connected chains of behaviors)	_____	_____	_____	_____
Concerted effort to accomplish goal (e.g., despite victim resistance)	_____	_____	_____	_____
Ability to show change in principle (e.g., from robbery to rape)	_____	_____	_____	_____

	Insufficient Data	No	Yes	Specify
Ability to show self-controlled somatic responses (e.g., sex with ejaculation, eating, and drinking; all within violence sequence)				
Ability to delay responses				
Ability to monitor and self-correct ongoing behavior				
Non-stimulus boundedness (acts independent of environmental influences)				
Ability to regulate tempo, intensity, and duration of behaviors				
Controlled mood during inflicting of violence				
Ability to avoid non-erratic behavior unless planned (e.g., deliberately becomes substance intoxicated)				
Hypothesis testing				
Awareness of wrongdoing during violence (e.g., from statements to victim)				
Ability to hit/penetrate vital body target (e.g., deep knife penetration or shots to head)				
Controlled cutting of victim				
Ability to stop violence (e.g., response cessation with no perseveration)				
Intact self-control (retrospectively reported by accused)				
Victim bound or other restraints used				
Mouth taped				
Mouth gag used				
Blindfold placed over victim's eyes				
Absence of bite marks on victim				

	Insufficient Data	No	Yes	Specify
No blood smearing or splattering	_____	_____	_____	_____
Victim tied to another object	_____	_____	_____	_____
Takes pictures of victim	_____	_____	_____	_____
Perpetrator encourages bystanders to engage in violence to victim	_____	_____	_____	_____
Torture of victim	_____	_____	_____	_____
Other aggressive acts prior to death	_____	_____	_____	_____
Obliteration or destruction of evidence during instant violence	_____	_____	_____	_____
Other signs of effective performance	_____	_____	_____	_____

Recovery Period Behaviors

The accused may, after the instant offense, exhibit behaviors suggestive of memory/knowledge that a possible crime had been committed. These include efforts ostensibly directed toward not getting caught for the offense or of minimizing possible aversive consequences.

	Insufficient Data	No	Yes	Specify
Moves away when help arrives	_____	_____	_____	_____
Disposes of or hides victim's body	_____	_____	_____	_____
Amputation of "ID" body parts (i.e., head and hands)	_____	_____	_____	_____
Disposes of victim's clothing	_____	_____	_____	_____
Other alteration of crime scene	_____	_____	_____	_____
Disposes of weapon used in offense	_____	_____	_____	_____
Disposes of other crime-related material	_____	_____	_____	_____
Takes souvenir from victim/scene	_____	_____	_____	_____
Cleans own body	_____	_____	_____	_____
Washes own clothes used in alleged crime	_____	_____	_____	_____

	Insufficient Data	No	Yes	Specify
Cleans/washes other material	_____	_____	_____	_____
Makes verbal statements of crime recall (e.g., spontaneous statements)	_____	_____	_____	_____
Relevant nonverbal gestures (e.g., points to victim's body)	_____	_____	_____	_____
Prevaricates incompatible behavior (e.g., makes up verifiably false story)	_____	_____	_____	_____
Writes confession	_____	_____	_____	_____
Other signs of recall for instant offenses	_____	_____	_____	_____

Post Violence Depression Phase

For many violent perpetrators, a period of guilt and remorse is experienced after the exhibited aggression. This is especially true for episodic or rare violent offenders. The self-control to avoid self-punitive behavior is the focus of concern here (e.g., suicidal or self-mutilative gestures). Apology and remorseful behaviors are very common here and imply little about self-control or choice at the time of the instant violence.

Routine Mental/Psychological Behaviors

Eventually, there is a return to baseline functioning for most individuals who perpetrate violence. The new baseline of routine activities and skills would also include that which is a function of violence-related learning, such as increased substance abuse, disturbed sleep patterns, and fashioning of new weapons. Some behaviors may be reduced (e.g., driving after conviction for negligent homicide and social activities that require trust and reciprocity). In the final analysis, an individual is never the same after the perpetration of substantial violence to others.

PART E: SELF-CONTROL MODEL

The rationally-based decision model below can be adapted to a wide range of instant offenses. The model represents the evaluator's post hoc decision path in coming to conclusions relevant to defendant's competencies at the time of the instant offense.

No Forensic Psychological Criteria	Yes	No	Opinion
1. Adequate forensic database; includes historical and instant offense information relevant to the accused, alleged victim(s), and crime context (Part A)	_____	_____	_____
2. Presence of significant basal violence (two or more acts of threatened, attempted, or consummated violence; Part B)	_____	_____	_____
3. Common themes for basal violence and instant offense (Part B)	_____	_____	_____
4. Self-regulation (Part C):	_____	_____	_____
Considerable to substantial goal formation	_____	_____	_____
Considerable to substantial planning and preparation	_____	_____	_____
Considerable to substantial concordance between plans and actions	_____	_____	_____
Considerable to substantial effective performance	_____	_____	_____
(To meet model requirements for substantial overall self-control, the evaluator must score Yes on 1 to 4 above.)	_____	_____	_____
5. The accused had substantial self-control at the time of the instant offense.	_____	_____	_____

Appendix C

Insanity Report Format

MENTAL FITNESS AND CAPACITY REPORT

DATE OF REPORT

Honorable William Smith
First Circuit Court
State Capitol Building
Any town, Any state 00001

Forensic Psychological Evaluation

RE: DOE, JOHN NMI

SSN: 000-00-0000

DOB: Month, Day, Year

Charge 1: Unpremeditated Murder

Charge 2: Robbery in the First Degree,
5 counts

Dear Judge Smith:

This is the report of the forensic psychologist [requested/appointed] by [you/the Court/Sanity Board, etc.] to examine and report upon the mental condition of the [defendant/client/patient/subject, etc.], John NMI Doe, SSN 000-00-0000, currently [assigned/residing/incarcerated, etc.] at [location name and address, including zip code].

Forensic Database

The nature of the examination consisted of [clinical interviewing/psychological testing/neuropsychological testing/interview of significant others/ward observation/records review/naturalistic observation/behavioral assessment with a functional analysis of crime-related responses/social-environmental assessment/review of medical findings/developmental assessment/competence assessment/description from relevant demographic data/post diction or prediction from base rates, etc.] for a total of approximately [N to N] hours of evaluation. Mr. Doe was examined both at the [place, date] and the [place, date] while he was on [pretrial confinement status/in the community on bail, etc.]. In addition to [one/two/N] clinical interviews, he was administered the following psychometric instruments: [list all tests, including multiple administrations and unsuccessful attempts].

The following individuals were interviewed and/or rendered written statements to the under-signed:

[List all persons and their relationship to accused or investigation process; indicate number of interviews and location, if significant]

The following written materials were reviewed:

[List source and type, include “non-official” materials, such as diaries, notes from the accused to his attorney, etc.]

Assessment Behavior and Database Validity

[Cooperative/uncooperative] and of [normal/disheveled/abnormal] appearance, this [single/separated/divorced/widowed/married], [white/black, etc.], [N]-year-old [vocation and rank or status within vocation] exhibited a [logical and coherent/fragmented/tangential/circumstantial/blocked stream of thought, etc.]. Affect was [appropriate/inappropriate, such as laughter or rage, blandness, lability]. A trend toward [somatic preoccupation/paranoid suspiciousness/rumination about past injustices, etc.] was observed. Orientation was apparent for [time/place/person/circumstance]. Memory for [short/intermediate/remote] events was [intact/impaired] as evidenced by [performance on presented sequences of numbers/inquiries by examiner regarding prior evaluation events/recollection of independently verified historical events], [with/without] a tendency to confabulate. Judgment was [marginal/adequate, etc.], as shown by [appropriate/inappropriate] responses to standardized comprehension questions [give examples—response to finding envelope, discovering theater fire]. Abstraction ability, as reflected by responses to proverbs [give examples—response to glasshouses, striking while the iron is hot] was [appropriate/concrete—if so, give response]. Associational ability, as reflected by responses to similarity items was [concrete/abstract/appropriate], as shown by [give examples—orange, banana; chair, table]. Reading and writing skills are [normally developed/impaired, specify]. Computationally, he had [no difficulty/difficulty] counting backward from 20 [but/and] had [difficulty/no difficulty] in [serial 7s/3s/adding/subtracting/multiplying]. Fund of information was [adequate/inadequate—if so, give responses to four presidents, population of United States, senators in U.S. senate]. Overall, his intelligence appeared [normal/below normal, etc.], which is [congruent/incongruent] with his education [specify years and focus]. Insight into the emotional basis of his present condition was [minimal/apparent, etc.]. No [other, if applicable] pathognomonic features of his clinical appearance were noted. [If features such as tattoos are present, state “for identification purposes...”]

Distortion analysis of Mr. Doe’s evaluation responses revealed, for the time of the interview, an attempt to [fake good/fake bad/invalidate results/present himself in an accurate manner—explain terms]. This is based on [validity scale results/goodness of fit between test profile and clinical behavior/performance on scales or test procedures specifically designed to assess attempts at misrepresentation/discrepancy between response and established events]. Distortion analysis for the time of the instant offense(s) revealed an attempt to [fake good/fake bad/confuse the crime picture/present himself in an accurate manner—explain terms if not done previously]. This is based on [assessment of claimed psychopathological conditions when compared with known data, e.g., BAC/establishing the likelihood of claimed psychopathology with DSM-IV diagnostic criteria/comparing similarity of current distortion to claimed psychopathology].

Interviewed others and written materials were also scrutinized for distortion. Statements by significant others may have been influenced by [a desire to assist the accused because they wish to be rejoined/a sincere desire to represent the facts honestly/the lengthy

period between the instant offense(s) and the written recollection of such]. Statements by the victim may have been influenced by [a desire for revenge/stress at the time of the instant offense[s]/a state of intoxication/the lengthy time between the alleged crime and investigation results, etc.].

Generally, evaluation results for Mr. Doe are considered an accurate portrayal of the accused, taking into consideration mental status, test-taking attitude, [psychological/intellectual/neuropsychological, etc.] limitations and competencies, and witnesses'/investigators' input.

Defendant Reconstruction of Instant Offense(s)

[If available, a detailed account of the alleged crime is presented by the accused, e.g., see police investigation report/JAG files].

Generally, the accused stated, during the present assessment, that the killing was [in self-defense/accidental/deliberate, etc.] after the victim [struck him/threatened him, etc.]. After the killing [witnesses stated/the accused self-described] his behavior as [describe], his affect as [describe], his cognitive functioning as [describe], his verbal remarks, in substance, as [paraphrase or quote].

The accused stated that the robbery was [repeat sequence for all charged crimes].

[If amnesia is claimed.] Of particular interest is the claimed loss of memory [following onset of strangulation of the victim/after the second knife thrust, etc.]. This amnesia, if genuine, could be caused by an elevated emotional state, such as intense anger or fear, or other condition such as [head trauma/an alcoholic blackout/psychosis/dissociative reaction/substance intoxication/epileptic seizure/other organic states] at the time of the crime. For the instant offense, the claimed amnesia is most compatible with the occurrence of [type or combination, include malingering if conditions for amnesia do not meet DSM-IV inclusionary criteria].

[If auditory hallucinations are claimed.] The accused also stated that he heard a "voice" to the effect that [the victim was trying to kill him, etc.]. Four points are relevant here. First, volunteering that the voice was experienced at the time of the crime [did not take place until long after the accused rendered previous statements about the crime, which did not include auditory hallucinations, took place at the crime scene to investigating officers, etc.]. [One wonders to what extent presenting the "voice" was prompted by the demand characteristics of the accused's legal situation/Presenting the "voice" in such a spontaneous manner while under obvious stress heightens the probability that it was, in fact, genuine, etc.]. Second, if instant offense events were as the accused describes, his acts [may have been in self-defense and therefore the voice is of little relevance/may have indeed been prompted by the auditory hallucination]. Recall that the victim had [describe relevant behaviors] and the context was [describe relevant contextual stimuli]. Third, hearing the "voice" [is/is not] tantamount to obeying it, as the accused [related a number of instances where the voice's command was disregarded; give examples/has acquiesced to it in all reported instances]. Fourth, the "voice" is described as [ego syntonic/ego dystonic]. Given the chance to rid himself of the "voice," he [would/would not] do so because of its [describe positive or negative properties]. This means that [describe implications of ego-syntonic/dystonic experience].

[Describe and evaluate if other unusual features of defendant's instant offense experience are claimed.]

Historical vs. Instant Offense Behaviors

[If available.]

A general history of the accused is also presented in [Dr. X's report/the presentence evaluation].

The defendant was born and raised in [Anytown, Anystate], the [give ordinal position] of [give number of male and female siblings].

Relevant aspects of his history that may bear upon the alleged crime include conditions that are associated with development of criminal behavior, such as arrest history/a family chronically affected by intra-member friction and lack of support/a violent same-sexed parental model/abuse as a child/school problems including frequent fighting and assaults on teachers, etc.].

Medical problems include [relevant diseases/spontaneous loss of consciousness before age 10, etc.]. His substance abuse history was [describe].

[If available.] Apparently, the accused dealt with the above circumstances by [describe strengths and competencies/describe helping relationships with significant others or agencies/describe diversion into areas such as sports, academics, hobbies/mention psychiatric hospitalizations or treatment].

Mental Condition

The diagnosis[es] representing a reconstructed mental condition for the time of the alleged crime is [specify DSM-IV, NNN.NN]. This is based on [specify DSM-IV inclusionary criteria that apply]. The diagnosis[es] for the time of the assessment is [specify DSM-IV, NNN.NN]. This is based on [specify DSM-IV inclusionary criteria].

[If two diagnoses are identical.] The diagnosis of [specify] for the time of the alleged crime [is temporally linked to the identical diagnosis at the time of the evaluation in the sense that both mental conditions have been continually operative during the two time points/even though identical to the diagnosis at the time of the evaluation, represents the mental condition occurring episodically with no implication of continued operation between the two temporal points].

Self-Determination of Instant Offense Behaviors

[If relevant cognitive events operative.] The cognitive capacity of the accused to appreciate the wrongfulness of his acts may have been adversely affected by the following events:

[Specify those which apply.]

1. During a delusion of imminent harm followed by self-defensive behavior [link to history, diagnosis, severity of associated conditions];
2. Other delusions [analyze appropriateness of delusion if it were true];
3. When experiencing hallucinations [specify command auditory hallucinations/visual hallucinations, but not illusions; link, as above];
4. In cases of clinical retardation or in borderline conditions where cognitive abilities are especially deficit compared to performance skills [link];
5. Other relevant conditions, such as dissociative disorders and some organic states [link].

[If relevant cognitive events operative.] Cognitive capacity to appreciate the wrongfulness of his acts seems to have been present, as evidenced by the following events:

[Specify those that apply.]

1. Flexibility of response, as when the accused brought his [burglar tools/murder weapon, etc.] to the scene of the alleged crime;
2. Interposing a stimulus to a known response, as [when the accused set his alarm clock to meet the victim at a certain time and location, etc.];
3. Attempting to remove potentially aversive stimuli, as [when the accused was caught at the site of the killing attempting to eliminate incriminating evidence, etc.];
4. Recounting the alleged crime to others [specify], which at least suggests image recall;
5. Verbally responding or exhibiting behaviors to others, suggesting he knew his acts were wrong.

[If relevant volitional events operative.] The volitional capacity of the accused to conform his conduct to the requirements of the law may have been adversely affected by the following events:

[Specify those that apply.]

1. All specified cognitive conditions; as that which adversely influences cognition also affects volition [specify];
2. Ingestion of the following substances: [specify];
3. Cumulative stress and other affective experiences operative up to [several months/1 year, etc.] before the instant offense and manifested by [specify and describe];
4. Momentary stress at the time of the crime associated with [victim provocation, describe/social demand traits of the alleged crime, describe];
5. Certain rare organic conditions [e.g., tumor in limbic system/RAS] acting on self-control abilities.

[If relevant events operative.] Events suggesting volitional capacity include the following:

[Specify those that apply.]

1. Changing availability of a stimulus, as when the accused [gave his friend a firearm to keep in his apartment only to retrieve it prior to the alleged crime, etc.];
2. Doing something else, as when one tightens all muscles to avoid a flinch response. For the accused, the similarity is [refusal to respond to police questions after apprehension, etc.];
3. Statements or behaviors by the accused suggesting self-control, as when the accused [stated he “pushed” the gun to the floor before firing to avoid hitting the victim, etc.];
4. Deprivation, as when the accused remained free of intoxicants and socially isolated himself prior to the alleged crime [demonstrate deprivation linked to choice and not other conditions].

Conclusions

[Address all.]

1. In my opinion, the accused is [competent/not competent] to proceed legally. He [has/does not have] an appropriate knowledge of the nature and quality of the legal proceedings and [is/is not] aware of the possible outcomes and consequences to himself. On the [Competency Screening Test/Competency Assessment Instrument], the accused scored in a range suggestive of [competency/incompetency] to proceed.
2. Concerning the unpremeditated murder charge, it is my opinion that the defendant [did/did not] lack substantial capacity to appreciate the wrongfulness [criminality] of his acts. Concerning the same charge, it is my opinion that the defendant [did/did not] lack substantial capacity to conform his conduct to the requirements of the law.

[For diminished capacity.]

1. Concerning the unpremeditated murder charge, it is my opinion that the accused suffered an impairment in his ability to appreciate the wrongfulness of his acts, corresponding to the highest levels of cognitive intent for this charge. This is based on the simultaneous operation of [specify].
2. Concerning the same charge, it is my opinion that the accused suffered an impairment in his ability to conform his conduct to the requirements of the law, corresponding to the highest level of cognitive control. This is based on the simultaneous operation of [specify].

[For additional charges not linked to an adequate database.]

Concerning the robbery charge, no comments can be proffered regarding mental capacity, as those charges are not anchored to an adequate database. That is, the charges [relate to isolated episodes presented long after the alleged acts/were corroborated in most cases by single accusers of doubtful credibility, etc.].

[If applicable, moreover, the accused does not recall his state of mind on the specified dates; therefore, no linkage of the alleged crime to state of mind can be examined].

Thank you for this referral and the trust that it implies.

Sincerely,

[Name]

[List Specialization] Clinical and Forensic Psychologist

[License/Certification Status] Certified, State of Hawaii

[Diplomate Status] Diplomate, ABPP, ABFP

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